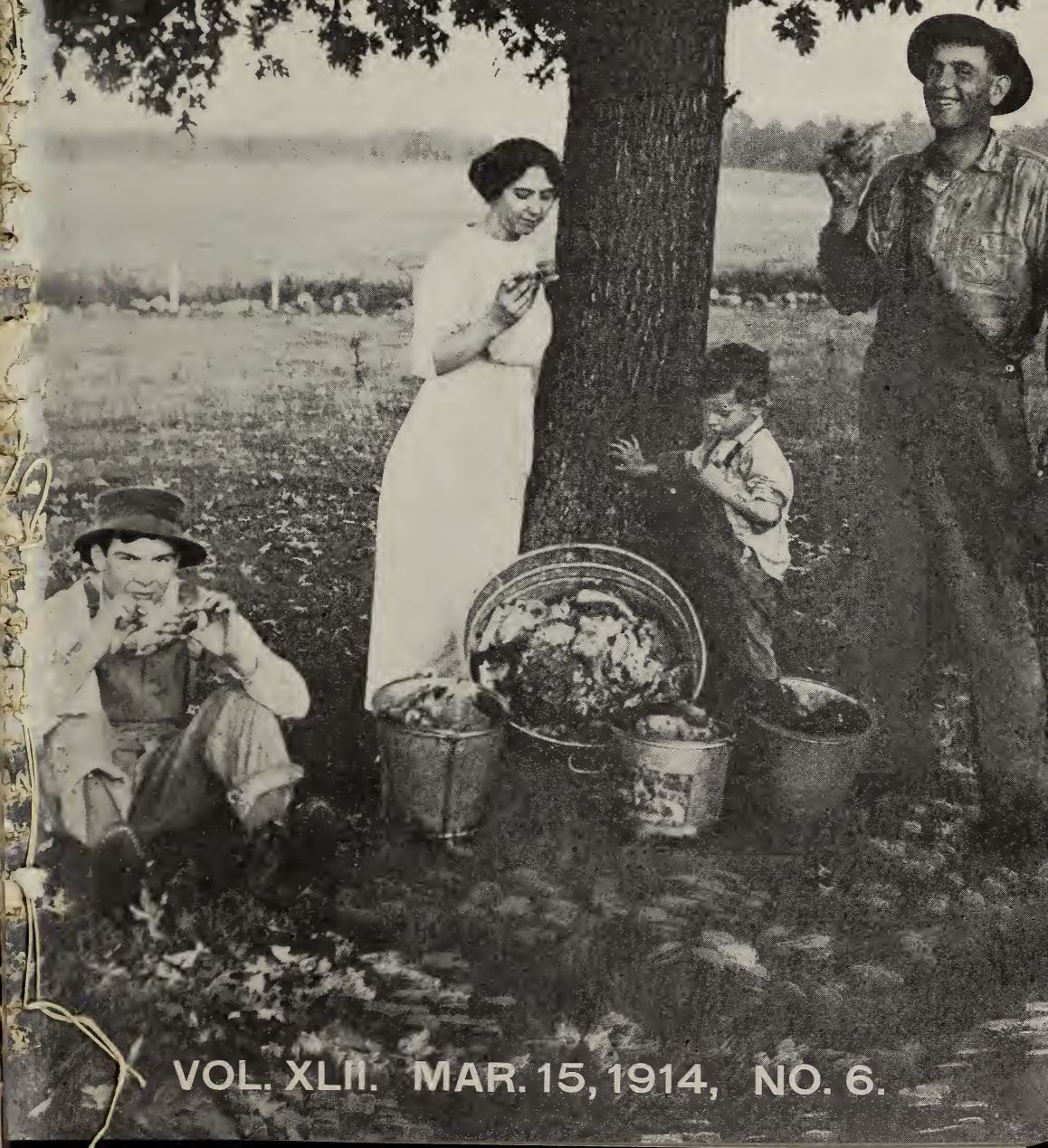


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Gleanings in Bee Culture



VOL. XLII. MAR. 15, 1914, NO. 6.

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Prospects for the coming season are unusually bright, and both prudence and economy would suggest the early placing of your order.

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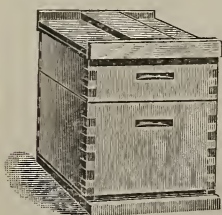
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HONEY MARKETS

The prices listed below are intended to represent, as nearly as possible, the average market price at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchants. When sales are made by commission merchants the usual commission (from five to ten per cent), cartage, and freight will be deducted; and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage and other charges are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

NATIONAL BEEKEEPERS' ASSOCIATION GRADING RULES Adopted at Cincinnati, Feb. 13, 1913.

Sections of comb honey are to be graded: First, as to finish; second, as to color of honey; and third, as to weight. The sections of honey in any given case are to be so nearly alike in these three respects that any section shall be representative of the contents of the case.

I. FINISH:

1. *Extra Fancy*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side.

2. *Fancy*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white, and not more than six unsealed cells on either side exclusive of the outside row.

3. *No. 1*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row.

4. *No. 2*.—Comb not projecting beyond the box, attached to the sides not less than two-thirds of the way around, and not more than 60 unsealed cells exclusive of the row adjacent to the box.

II. COLOR:

On the basis of color of the honey, comb honey is to be classified as: first, white; second, light amber; third, amber; and fourth, dark.

III. WEIGHT:

1. *Heavy*.—No section designated as heavy to weigh less than fourteen ounces.

2. *Medium*.—No section designated as medium to weigh less than fourteen ounces.

3. *Light*.—No section designated as light to weigh less than ten ounces.

In describing honey, three words or symbols are to be used, the first being descriptive of the finish, the second of color, and the third of weight. As for example: Fancy, white, heavy (F-W-H); No. 1, amber, medium (1-A-M), etc. In this way any of the possible combinations of finish, color, and weight can be briefly described.

CULL HONEY:

Cull honey shall consist of the following: Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing n, honey-dew honey, honey showing signs of fermentation, poorly ripened, sour or "weeping" honey; sections with combs projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched-up sections; sections weighing less than ten ounces.

HONEY-GRADING RULES ADOPTED BY THE COLORADO STATE HONEY-PRODUCERS' ASSOCIATION, DECEMBER 13, 1911.

FANCY WHITE.—Sections to be well filled, comb firmly attached to all sides and evenly capped except the outside row next to the wood. Honey, combs, and cappings white, and not projecting beyond the wood; wood to be well cleaned; no sections in this grade to weigh less than 13½ ounces.

No. 1.—Sections to be well filled, combs firmly attached on all sides and evenly capped, except the outside row next to the wood. Honey white or very slightly off color. Combs not projecting beyond the wood; wood to be well cleaned; no section in this grade to weigh less than 13½ ounces.

CHOICE.—Sections to be well filled; combs firmly attached; not projecting beyond the wood, and entirely capped, except the outside row next to the wood. Honey, comb, and cappings from white to amber, but not dark; wood to be well cleaned; no section in this grade to weigh less than 12 ounces.

No. 2.—This grade is composed of sections that are entirely capped, except row next to wood, weighing from ten to twelve ounces or more; also of such sections as weigh 12 ounces or more, and have not more than 50 uncapped cells all together, which must be filled. Combs and cappings from white to amber in color, but not dark; wood to be well cleaned.

EXTRACTED HONEY.—Must be thoroughly ripened, weigh 12 pounds per gallon. It must be well strained, and packed in new cans. It is classed as white, light amber, and amber.

STRAINED HONEY.—This is honey obtained from combs by all other means except the centrifugal extractors, and is classed as white, light amber, amber, and dark; it must be thoroughly ripened and well strained. It may be put up in cans that previously have contained honey.

BOSTON.—We quote fancy and No. 1 white comb honey at 15 to 16; fancy white extracted honey in 60-lb. cans, 11. Beeswax, 30.
Boston, March 7. **BLAKE-LEE CO.**

IDAHO FALLS.—We quote finest white extracted honey in 60-lb. tins, at 6 to 6½.

IDAHO HONEY-PRODUCERS' ASSOCIATION.
Idaho Falls, March 6. **F. C. BOWMAN, Sec.**

ALBANY.—We have to report a very dull honey market. Our stock of comb is very light, and extracted is overstocked. Prices are nominal at buyers' offers.

Albany, N. Y., March 6. **H. R. WRIGHT.**
Honey reports continued on page 5.

**JUST
OUT!**

New 1914 Catalog--"Everything for Bees"

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New 64-page Catalog

Our new 1914 catalog contains double the pages of former editions and requires extra postage. It is filled from cover to cover with complete lists of goods in every line to meet every requirement of beekeepers. If you haven't received a copy when you read this, be sure to ask for one. It will save you money.

New Features for 1914

Few radical changes have been made this season. It should be noted, however, that we will send out with regular hives, unless otherwise ordered, the metal telescopic or R cover with super cover underneath. The side rail for the bottom-board will be extra length so as to overcome the difficulty experienced by some last season. Improvements have been made in extractors. We shall carry a very heavy stock so that orders may be filled with our usual promptness. Write us your needs.

C. H. W. Weber & Co.

2146 Central Avenue

Cincinnati, Ohio

Gleanings in Bee Culture

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DENVER.—The market on both comb and extracted honey is not as active as it might be, state of weather considered. However, prices are remaining at about the same level as quoted last.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION,
FRANK RAUCHFUSS, Manager.
Denver, Col., March 6.

LIVERPOOL.—We are still without any stock of Chilian beeswax, and the value is between \$38.88 and \$43.74 per cwt. For Chilian honey the market is very slow. Thirty-five barrels have been sold at retail at the following prices: Pile I., \$7.08; pile II., \$6.60.

Liverpool, Eng., Feb. 18.

TAYLOR & Co.

ZANESVILLE.—The demand for honey, while not brisk, is not far from normal for the season, there being some call for best quality of comb. We quote No. 1 to fancy white at 16½ to 18½ in a jobbing way; 18 to 20 wholesale. Best white extracted in 60-lb. cans, 9 to 10. These quotations are for white clover. Western honeys rule about a cent less. The price of beeswax remains arbitrary. At present producers would receive 32 to 33 cts. cash, 34 to 35 in exchange for supplies.

Zanesville, O., Mar. 6. EDMUND W. PEIRCE.

ST. LOUIS.—Our honey market remains in the same condition, rather dull and inactive, although there has been more calls for comb honey within the past few weeks. We are quoting in a jobbing way: Southern extracted, strained, light amber, in barrels, 6½ to 7; in 5-gallon cans, 7 to 7½; dark, ½ to 1 ct. per lb. less. Comb honey, fancy clover, 14 to 16; light amber, 12 to 14; amber, 10 to 12; dark and inferior, 8 to 10. By the case fancy clover brings \$3.00 to \$3.25; light amber, \$2.50 to \$3.00; amber, \$2.00 to \$2.25. Beeswax is scarce, and firm at 33½ for prime; impure and inferior, less.

St. Louis, Mar. 6. R. HARTMANN PRODUCE CO.

BUFFALO.—Our honey market continues to be very dull. At no time does it liven up and get active. Stock is heavy here and everybody is anxious to sell. Prices would be cut considerably if there were any chance to move any good-sized lots. Extracted honey plentiful, and slow sale. Good buckwheat would sell, but the most sent in is generally only half or less buckwheat. Fancy white comb honey, 16 to 17; No. 1 white comb honey, 15 to 16; No. 2 white comb honey, 13 to 14; No. 1 buckwheat, 13 to 14; No. 2 buckwheat, 12 to 13; white extracted, 8 to 9; dark extracted, 6 to 7; dark, about all buckwheat, 8 cts. Beeswax scarce, and wanted.

Buffalo, N. Y., Mar. 6. W. C. TOWNSEND.

The American Newspaper Annual and Directory

1398 pages, royal octavo, cloth, \$5.00 net, carriage extra, postage 60 cents. Published by N. W. Ayer & Son, Advertising Agents, Philadelphia.

The forty-sixth year of continuous publication brings us the 1914 edition of this comprehensive review of the newspaper and magazine field. The book is full of valuable information for the publishers of this country and for all those who deal with them. The facts and figures pertaining to each of the 24,527 publications listed are presented in a condensed and get-at-table form.

The Annual and Directory is now the only publication of its kind which is compiled from information gathered with such thoroughness each year from original sources. Mr. George P. Rowell was the first to compile such a work, and for many years he issued the American Newspaper Directory. Following his death, the Directory, with its records, copyrights, and property, was sold to N. W. Ayer & Son, who combined it with their Annual.

One specially valuable feature is the population of over eleven thousand towns, little and big, as given by the U. S. Census of 1910 and the Canadian Census of 1911.

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Gleanings in Bee Culture

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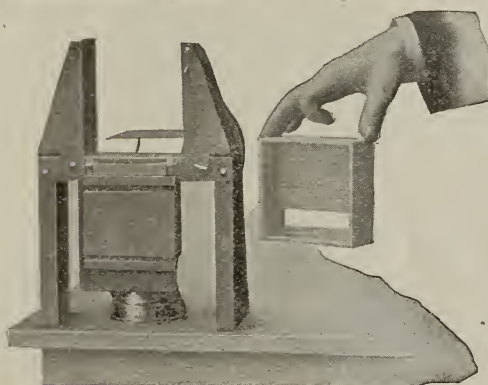
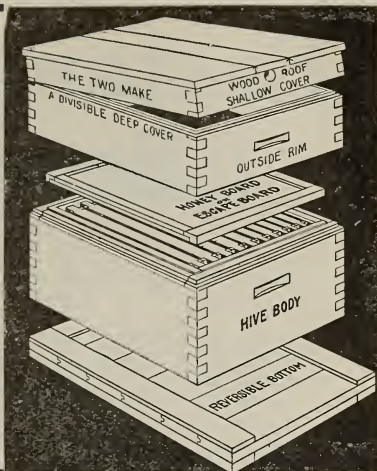
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J. B. MASON, Manager

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"If goods are wanted quick, send to Pouder."

ESTABLISHED 1889

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Bees in this zone are in winter quarters with a bounteous supply of natural winter stores, and I believe that no other feature is quite so important as regards safe wintering as an abundance of wholesome stores. The fall flow was so profuse that in some instances brood-rearing was curtailed early on account of crowded condition, and some strong colonies were weakened on this account. A few losses may result from this condition. The white clover in this zone is in good condition with the exception of a few counties which suffered from drouth. Conditions for ensuing year are very encouraging for both beekeeper and the supply-dealer. The last year will be remembered as a most excellent honey year, and with it came the best demand for honey that has ever been known. I am receiving more inquiries and orders for Root Bee Supplies than ever before during midwinter, and some discounts for early orders are still available. The policy of this house as to prompt shipments and a fair and satisfactory deal will be maintained as heretofore, and I hope to deal with you in a way that will justify your recommending my goods to your neighbor.

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Louisville, Ky.

Yours truly,

OTTO F. RECKTENWALD.

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I can use more beeswax, and am now paying 31 cents cash or 33 cents in exchange for goods.

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LEWIS QUALITY.—Which means that all Lewis Hives are made out of clear white pine, and Lewis Sections made out of fine white basswood. Material in these goods is the best obtainable, selected by experts.

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NEW American Bee Journal

IT PLEASES

In ordering the *Journal* again, I expected to see the same old thing; but I was agreeably surprised in the beauty of the pictures on the covers.

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NO. 6

Editorial

THE HEAVY SNOWS AND CLOVER.

THE heavy snows that have covered the ground all over the North during the last month will go a long way toward insuring a good crop of white, alsike, and sweet clover. The snows not only protect the clovers, but thoroughly wet down the soil for the early spring growth.

WEATHER IN SOUTHERN FLORIDA.

THE weather has been very beautiful in Bradentown—bright sunshine and a cool crisp air while the Northern papers report blizzards, zero weather, and snow. It has been cool at night, in the morning, and evening, and warm during the middle of the day. Ordinarily it is much warmer than this; but the exceptional cold weather in the North has had its influence in the South.

THE COLD FEBRUARY AND ITS POSSIBLE EFFECT ON WINTERING.

THE exceptionally cold February throughout the North, preceded by a comparatively mild December and January, may have a bad effect on outdoor-wintered bees, particularly if brood-rearing got much under way in the warmer part of the winter; but the cold coming so late probably will not do much damage if March is not too severe. The cellared bees of course will be all the better off for the cold. We are not sorry that the most of our bees are in Florida this winter, and the rest in our Medina cellars.

OUR COVER PICTURE.

THE cover picture for this issue shows the result of taking a colony of bees from a tree, as described by J. Bakula, page 221, of this issue.

If the work is done at the right time of the year and in the right way, a good strong colony of bees may often be obtained besides considerable honey. Ordinarily it does not pay to remove bees from trees in the fall; for unless conditions are unusually favorable the colony obtained can not be wintered with any degree of success. Very early in the fall might be all right if the bees have time afterward to adjust them-

selves to their new surroundings; but, of course, unless one has watched the bees in the tree for some time he runs the risk of having all his trouble for nothing. More than one large tree has been cut down in the fall, revealing only a late swarm, and a weak swarm at that, with practically no honey.

THE ROOT BEES AT APALACHICOLA.

THE last reports from our apiary on the Apalachicola River show that the weather has been cool and unfavorable during the last two weeks of February. Notwithstanding, our Mr. Marchant in charge says the bees have been breeding right along, and that he is now about ready to put on upper stories; but he has had to feed. The bloom from ty-ty is just opening up, and it is expected that the yard will be on the boom. Before swarming, the two-story colonies will be divided and another yard established.

E. R. R., now in Florida, after visiting the southeast coast, will go on up to Apalachicola, arriving there from the 12th to the 15th of March. The weather was so cool on coming into Florida on the 13th of February that he decided to visit our apiary just before his return to Ohio. The deferred visit will give him a better opportunity to study conditions and thus better determine whether the experiment of moving carloads of bees into this region for increase and honey is a success.

AN EXPLANATION.

QUITE by accident, we left out the last half of J. L. Byer's discussion in the last issue relating to the condition of the honey market in Ontario. As his first paragraph on the subject was not very complete, we hasten to place the rest of it before our readers at this time. The second paragraph in question is as follows:

As nearly all beekeepers in Ontario know, for a number of years the Ontario Beekeepers' Association has appointed a committee each year to gather statistics as to crops of honey, and then they advised each member as to what price they should expect for their crop. I suppose that, if the beekeepers had been in-

interviewed at any time previous to August, 1913, 90 per cent of them would have said, and truthfully, too, that this committee had put thousands of dollars in the beekeepers' pockets during the last five or six years. This year, as usual, the committee did a lot of work and sent out the usual report; but in this case, for reasons neither they nor anybody else thought of at the time, the price they recommended proved to be too high to move off the honey; and what a different story there is now on the part of some producers! Some actually had the nerve to write letters saying that the "ring," and other choice epithets of like nature, had issued the price list for the purpose of holding back others so that they (the committee) could sell their honey at the higher price before the general drop in prices would come into effect. The men on this committee have done a lot of work for no monetary consideration, for years; and to think that for once they in common with nearly all other beekeepers did not foresee the abnormal conditions ahead they should be accused of crooked work—candidly, Mr. Editor, you wouldn't print what I feel like saying, and I am not a profane man at that. Just to give the lie to such insinuations, I might say that the men on this committee did not sell in the early market, and at least one of them has the bulk of his crop on hand at the present time. I might also say that I was not a member of said committee; but I did attend their meetings on invitation, and acted in an advisory capacity along with the members. This being the case, I take full responsibility with the members in so far as being mistaken in our estimates and in not anticipating the dull times; and I repudiate any crooked methods just as emphatically as though I had been an actual member of the committee in question. These are pretty plain remarks, but no plainer than the occasion calls for.

PROOF THAT DISEASE CAN NOT BE TRANSMITTED BY COMB FOUNDATION.

At the Pennsylvania State convention at Harrisburg, Feb. 20, 21, the question came up as to whether the use of comb foundation is not responsible for the rapid spread of disease. This point has been raised a good many times in spite of what we consider very good proof to the contrary. Some years ago experiments were made with a view of transmitting foul brood by using foundation made from wax rendered from foul-broody combs; but these were not successful. However, in our opinion the strongest proof that foundation is not responsible for the transmission of disease is that it is being constantly used in healthy apiaries where there is never any disease. There is scarcely an apiary, large or small, in which comb foundation is not used every year. In case of large apiaries hundreds of pounds are used. Most makers of comb foundation divide the wax which they receive into two grades—the light and the dark. The light, being made principally from cappings, is used for making the thinner grades of foundation used in supers. The dark, generally rendered from old combs, is used for brood foundation. Now then, while it is practically impossible for any maker of foundation to tell whether the

wax he receives is made from foul-broody combs, it remains a fact, we believe, that considerable of the dark wax made into brood foundation was originally rendered from foul-broody combs. Perhaps most of such wax is made from old combs in box hives, crooked combs, etc.; but much of the wax is from diseased combs, the exact proportion, of course, no one being able to ascertain.

Here is the point: Assuming that a large proportion is made from wax rendered from diseased combs, if such foundation had the power to transmit the disease into the colonies in which it is placed, then we should expect foul brood to break out immediately all over the country to such an extent that the beekeeping industry would be almost wiped out in the course of a single year. As a matter of fact, there are hundreds and thousands of apiaries where foundation is used year after year—brood foundation, too—where disease has never been known. Now, if there is any stronger proof than this we should like to know of it.

It might be argued that strong colonies may be able to resist the disease. This might be true in case of European foul brood, but it is certainly not true in case of American foul brood.

HOW DOES DISEASE TRAVEL?

In our opinion there is nothing strange about the transmission of disease among bees. The most direct cause is the tendency of the bees to rob openly and violently during a period of honey dearth. Bees, when possessed of the robbing mania, will often go further for honey than they will for the nectar of the flowers during a honey-flow; and the easily overpowered colonies, weakened by disease, become the prey of these mad robbers that seize the stores only to find, later on, that, by so doing, they have "poisoned" their own brood, and accomplished their own downfall. In rare instances bees have been known to go seven miles for the nectar of the flowers. This shows that an apiary can hardly be expected to remain free from disease indefinitely if such disease exists even four or five miles away.

CITY BEEKEEPING IN FLORIDA.

INTENSIVE farming, market gardening, and the phenomenal growth of the towns and cities in Florida, are driving the keeping of bees more and more into the outlying districts where the hand of man has never touched the ground. On this virgin soil will be found the palmettos, gallberry, and pennyroyal, all of which yield honey. In other parts will be found the mangrove and the tupelo.

An exception to the rule of the city and the garden driving out the bees is the mammoth orange and grapefruit groves. It is in these that the hand of man has developed an important and increasing source of nectar supply. These groves and the uncultivated areas of palmetto furnish a blend of a beautiful light-colored fine-flavored honey. There is scarcely any thing better for table honey, north or south, than a palmetto honey with the flavor and aroma of the orange-blossom. The time will come when there will be a distinct demand for it, just as there is a demand for Florida oranges and grapefruit.

ORANGE HONEY.

This is coming more and more to be a staple article of commerce, not only in small but in car lots. One who has not seen the mammoth groves of citrus fruits in California and Florida can not form any conception of their vast areas, covering square mile after square mile of territory. While the groves in Florida are smaller they are more numerous and more scattered than in California. From the latter State orange honey is being shipped east by the many earloads, as the large honey-buyers will testify. In Florida an orange honey is more apt to have a blend of some other source like palmetto; but it should not be understood that no *pure* orange is produced in Florida. The larger and more numerous the groves, the purer will be the honey, especially if the territory adjoining is under cultivation, as is the case in many sections of the State.

FLORIDA LAND, GOOD AND BAD.

As a rule the character of the soil varies so much that some areas will be productive while that immediately next to it is too poor to produce any thing but scrub palmetto. For instance, here will be a fine piece of hammock land that will grow any thing from celery to oranges. Right next to it will be an area of white sand with no hardpan beneath. On the former, one can get good returns from his investment. On the latter, he can get no returns, and he will be a sadder and a *madder* man—mad enough to kick the real-estate agent who sold him, clear into the middle of the Gulf of Mexico, where he can not “catch another sucker.” Some “strike it rich;” but many poor suckers are left stranded without a penny to get back.

Speaking about real-estate agents, there are plenty of them all through Florida. In some places they are literally thicker than bees. It is actually true that the country could afford to have “more bees” and less

of some of these sleek, oily-tongued chaps. A tourist seeing the numerous signs of real-estate agents in St. Petersburg very innocently asked a Florida cracker how many there were in the city. “As many as there are inhabitants,” was the instant response. While this is a slightly exaggerated statement, the craze to buy and sell land permeates a large part of the population. In many instances the land has doubled and tripled in value in the space of two or three years. Such sudden wealth has developed an unhealthy mania to “get rich quick” that is more or less pronounced—a condition that is certain to bring disaster sooner or later.

We see precisely the same thing in Oklahoma, in California, in New Mexico, Arizona, and Oregon. There are honest real-estate men in Florida as everywhere else. There are men there who are proud of the business they have done for their clients.

THE FOUNTAIN OF ETERNAL YOUTH.

There are numerous chances to buy good land at right prices, and there are thousands who have found home and health in the State. It is literally true that many with failing health, or who could not stand the Northern winters, have found a new lease of life in Florida. Not a small part of the population were *forced* to come south or die. One man in the last stages of Bright's disease came to Manatee as a last resort. He was directed to eat plentifully of grapefruit, drink from the Manatee spring, and live outdoors. He is to-day a well and rugged man, the manager and owner of a large truck-farm. He certainly looks as if he had found “the fountain of eternal youth” that the Spaniard of old sought and did not find. While we don't believe much in the curative value of spring waters in Florida or anywhere else, we do believe that the Florida outdoor air has performed miracles in restoring health. To see and talk with those that have been cured is to believe.

WILL THE BOOM IN FLORIDA LAST?

Many believe that there is bound to be a slump in the present exaggerated value of lands in the State; that such boom times can't last; that there will come a time when the “get-rich-quick” mania will exhaust itself; that in the mean time thousands who have “invested” will lose their hard earnings. While this is bound to be so in some places, and to some extent in all places in the State, it is to be hoped that it will not be true generally. As long as there are thousands and thousands of sick and over-worked people in the North needing a rest and a warm climate during midwinter, there

will be a demand for homes and land. The average person, if he does not take time to investigate thoroughly before investing in land—especially land remote from a good town or water front, will lose out; for most of the land in the State is good for nothing, either to-day or at any time in the future. The three elements that determine values on land in Florida are water front, proximity to a good town, and productiveness. The man or agent who can guess where a big town or resort will locate will strike it rich if he can live long enough.

A. I. ROOT'S FLORIDA VISITORS; AN OPEN LETTER FROM E. R. ROOT TO THE READERS OF GLEANINGS.

FROM one to half a dozen people almost daily visit A. I. Root at his Florida home in Bradentown. There is nothing great or remarkable at his place; but our readers evidently want to see the man whose writings on home, garden, and religious topics they have read so long. Said a visitor the other day, "There are just two men in this world I have been wanting to see. One is Elbert Hubbard and the other is A. I. Root. Excuse me," he corrected, "I mean A. I. Root and Elbert Hubbard. I shall go back to my friends now and say I have seen Mr. Root;" and he evidently was pleased; but there are some, doubtless, who go away with a different impression when they see a little old man in old clothes with cap drawn down over his ears, who gives them only a moment of his time, and who possibly rather abruptly excuses himself, and they see him no more.

In all fairness to Mr. Root, it should be stated that he was never of robust health. Once, as a child, he was given up to die; but his mother, the neighbors said, would not let him die. From childhood up he suffered from frequent lung trouble, and during the intervening years he has had to be very careful of his health. The building up of two large businesses during his earlier manhood soon put him where it was thought he would not live long. The doctors prescribed midday naps and letting go some of his business cares. He did not readily accept the latter part of this treatment until a siege of malarial fever, which nearly took him away, compelled him to relax. His boys came out of college, and from then on he gradually let go of the active care of the business. This, fortunately, enabled him to go on with his experimenting and writing until now many who have followed him these years, and read those lay sermons, are anxious to see the author.

Nearly seventy-five now, his years have

begun to pull upon him, so that he is obliged to take not only his noonday nap but one or two more during the afternoon and evening. If a visitor perchance happened to come upon him just before one of these naps he may be surprised and pained at the abruptness of the interview. To apologize or explain might make matters worse.

The fact is, that there are times when A. I. Root is physically unable to give his callers much attention. At other times, fresh from a nap, his visitor may be surprised at the exuberance of his enthusiasm in showing his garden (particularly his *dasheens*), his chickens, his ducks, and his tropical plants around the house. Such a treatment seems wholly in accord with the style of his writings. The abrupt interviews perhaps seems to be the very antithesis of his Home papers.

No one regrets more than Mr. Root that he is unable to give to all the same considerate attention that he gives to some. The former may be justified in the belief that the *real* A. I. Root is not the same as the A. I. Root on paper.

Right here it is proper to remark that when A. I. writes matter for publication he does it in the *fresh* hours of the morning, or after a nap in the afternoon, when he is at his best. In this connection, also, it should be said that Mr. Root has no office force at his Florida home—not even a stenographer or a clerk. His replies to the numerous questions that are sent to him at Bradentown, if at all, must necessarily be brief.

I wish to suggest that all questions be sent to the Medina office. I have studied Florida, and am fairly familiar with what my father is doing, and his views on various subjects. As I am in Medina eleven months in the year I can, with our office force, the dictaphone, and stenographer, answer most of the inquiries that come in. I make this suggestion that father may prolong his life, and thus give thousands the benefits of his Home talks and lay sermons. The answering of many letters is becoming a serious task to a man of his age.

A. I. says visitors are always welcome at his Florida home; but if any one of you should get a short visit or interview you will know that it is not because it is *you*, but because you *happen* to come at his nap times when it is absolutely necessary that he take a rest, and without which his Home talks would soon be no more.

E. R. Root.

Bradentown, Fla., Feb. 27.

Stray Straws

By DR. C. C. MILLER, Marengo, Ill.

HENRY REDDERT disapproves of bees on housetops because the bees try to get in windows in time of preserving fruit, p. 193. Why should bees on housetops trouble more than bees on the ground?

"BEES do not put different grades of honey in the same cell," p. 74. No, nor different colors of pollen in the same cell, nor visit more than one kind of flowers on the same trip. That's the rule, but there are exceptions, friend Hewes, in all three cases.

ALEXANDRE ASTOR, *Apiculteur*, 6, says science shows that honey contains mineral salts—salts of iron, potash, lime, phosphates, etc., and that these are *indispensable* to the formation and maintenance of living organisms. Since sugar is almost entirely deprived of these salts, bees fed almost solely on sugar must necessarily deteriorate.

"THE OUTLAW," p. 178, trusts "that all those who are true apiarists at heart will understand and forgive his acts as an outlaw." That might pass for a joke; but taking up a column or so to prove that he is really a breaker of valid law can hardly come under that head. Let us hope that "to be continued" may give the key to the puzzle.

A VARIATION of the McEvoy treatment by E. G. Brown is given in *Review*, p. 12. Prepare a hive with frames of foundation or starters, only let there be one frame of drawn comb. Brush the diseased bees into it, and when they have been in the hive long enough to empty their sacs, draw out the comb of honey, carefully brush off the bees in front of the hive so as to scatter no honey, destroy the comb, and replace it with a frame of foundation.

ENDORISING the editorial on European foul brood, p. 2, I may say that, if it were left to me to decide whether it should continue in this neighborhood or not, I should hardly know which way to vote. [Do you mean that European foul brood has been a blessing to you in that it has eliminated the black strain of bees, or the careless haphazard beekeeper, or both? It is certainly doing both, and therefore to some beekeepers, at least, it is not an unmitigated evil.—Ed.]

LONGEVITY I am inclined to believe an important factor, and I am quite willing to be convinced that greater longevity brings greater storing. But I'd like to have some proof that the extension of life is in the gathering period, and not in the previous

portion of the bee's existence. We are told that in the busy season a worker lives 6 weeks—16 days as a nurse-bee and 26 days as a gatherer; that is, 62 per cent of its span is spent at field-work. If, now, we can get a bee to live 12 weeks, what gain will there be unless more than 62 per cent of its life is spent as a fielder?

MCHEMRY COUNTY, ILL., in which I live, has a "Soil Improvement Association," partly supported by the U. S. Department of Agriculture, with a resident Soil Expert belonging to the Department. There have been planted 350 acres of alfalfa, and for the coming season 115 bushels of alfalfa seed have been bought. But the special thing I wanted to tell you is that 20 bushels of sweet-clover seed have been bought, or more than one-sixth as much as alfalfa. So far as I know, that is without any reference to bees, but solely for hay and pasture. It shows that sweet clover is forging to the front pretty rapidly, and that Uncle Sam is helping to get it there.

"INCREASING the super room did no good." That's quoted, p. 83, from Wilmon Newell, as referring to prevention of swarming. I'm a bit skeptical about his meaning that without qualification. I think he believes that, if bees are crowded for super room, it favors swarming; and that's not such a great way from saying that decreasing super room favors swarming; which, again, is not so far from saying that increasing room favors prevention. Personally I am of opinion that there are cases in which, with timely enlargement of super room, there is no swarming, whereas without that enlargement the bees would have swarmed. My practice accords with that belief. Whereas I formerly added an empty super beneath as soon as the lower super was partly filled, I now add an empty super on top as well. Especially do I believe in abundant super room *before* the bees begin to have swarm-thought. ["Increasing the super room did no good" was not a direct quotation from Wilmon Newell, as you say, or at least we do not find any quotation-marks in the copy before us. As the paragraph is brief we might as well quote the whole of it. This is what Mr. Newell said on the point:

Many experiments were tried in which a large amount of super-room was furnished the colonies, both prior to the development of the swarming fever and afterward. It is unnecessary to take space for describing these experiments, as in no case did the addition of abundant super-room have any perceptible effect upon the swarming tendency.

SIFTINGS

J. E. CRANE, Middlebury, Vt.

I will take off my hat any day to Anton Larson and his six honey-eaters, page 22, Jan. 1.

* * *

"*Cheap, twangy stuff*" is what the editor calls honey adulterated with glucose, and he is right, p. 43, Jan. 15.

* * *

Can any one tell us whether sweet clover will kill out quack-grass when sown on a turned sod of this kind of grass?

* * *

Mr. Glenwood Beard is right in his statement, p. 856, Dec. 1, that swarms from colonies infected with American foul brood do carry diseased honey with them.

* * *

My experience in making money by poultry corresponds quite closely with the ideas given by O. L. Hershisier, page 30, and I have great respect for the business ability of those who make a fair success of poultry on a somewhat extensive scale.

* * *

Dr. Miller says, page 5, Jan. 1, that most of the work of securing that bumper crop of honey in 1913, of 266 sections per hive, was done by a woman. "Did you ever?" Who shall say from this time on that bee-keeping is not a woman's business?

* * *

Mr. Byer, in speaking of Dr. Miller's last year's crop of honey, page 6, says, "Such a crop means a combination of a wonderfully good honey-flow, wonderfully good bees, and last, but not least, wonderfully good management." That is what I call a wonderfully good combination.

* * *

C. W. Dayton's experience in shipping honey by parcel post, as given on page 859, Dec. 1, would seem to show that it may be sent safely in this way. We have had no difficulty. We use corrugated paper, however, instead of wood for cover. Let us remember that the word "parcel" means "something done up," and for this purpose it should be done up securely.

* * *

It makes one's heart flutter a little to read on page 860, Dec. 1, of Mr. Gilstrap's young son getting a hundred stings at one time. It is not all of us who have whisky or brandy at hand, so I want to say that carbonate of ammonia is even better than any form of alcohol. A lump the size of a bean should be dissolved in half a glass of water, and a teaspoonful given every half

hour or oftener. Ammonia is a quicker stimulant than alcoholic liquors, and, besides, it is an antidote to bee-poison.

* * *

Dr. Miller is right, p. 45, Jan. 15, in thinking bees will move eggs for the rearing of a queen. I had a case of this some thirty-five years ago. The bees built a queen-cell on a comb that I gave to a queenless colony in spring. The comb having been wintered out of a hive, and as there was no queen in the hive, they must of necessity have moved an egg to rear the queen where they did.

* * *

I received some time ago a copy of a booklet edited by A. I. Root and J. T. Calvert. It would be cheap at a dollar considering the facts it contains. Its title, "The Truth about Sweet Clover," does not appear to be in the least misleading. What is more it doesn't cost a dollar. Just write to the A. I. Root Co., and they will send you a copy for the asking.

* * *

BROOD REARING IN THE CELLAR.

That which interested me, perhaps, more than any thing else in the Jan. 1st number was the brood-rearing in one of the beecellars at Medina, page 33. It seems to me that we have here the germ of something of great value. If weak colonies in the fall can be so wintered as to come out strong in the spring it is a mighty improvement over having strong colonies in the fall come out weak in the spring. This account of wintering bees and winter brood-rearing reminds me of what the man said of whom I bought my first hive of bees nearly fifty years ago. He said the best way to winter bees is to leave them out of doors until late, and then take them to a cellar, when they at once commence breeding. That is just what they have done at Medina, and with just the result that he stated. They have had a season of rest, and the moving has caused them to consume or fill themselves with honey; and what could be more natural than that they should feed their queen and she begin laying freely, and that in the higher temperature the eggs should be hatched and the brood reared? But the supply of pollen, and how far this brood-rearing can be carried without the bees flying or producing disease, is something we long to know. Please, Mr. Editor, tell us more about it.

Beekeeping in California

P. C. CHADWICK, Redlands, Cal.

Mr. Crane, p. 794, Nov. 15, following your reasoning, bees in a twelve-frame colony might build up faster than those in a ten by having a greater amount of stores than those in the ten-frame hive. There is no question that ample stores have much to do with rapid increase in the spring, far more than is generally supposed; but I had in mind equal conditions in this line when I made my original comment in the July 1st issue.

* * *

Some of our California beekeepers seem to think it is a waste of time for them to read of wintering bees. In reality it is one of the problems we have much to learn of—not of the extreme cold, but to know really how to handle the problems that arise from season to season that we should be able to meet intelligently and promptly. In the East I was able to tell very closely when the winter was over; but here the bees may be ahead of the season, or the season ahead of the bees. The latter is the most important we have to watch; for if the season is much in advance of the bees it means a loss of valuable time.

* * *

It began to rain Feb. 17, after three weeks of practically cloudless skies. More fell on the 18th; still more on the 19th, 20th, and 21st, by which time California began to resemble a "drowned rat," and flood conditions became grave indeed. Redlands received no mail from Los Angeles for three days; but the Los Angeles daily papers were able to reach us by auto truck. Such a storm is rarely experienced in this section, as the rainfall was little less than phenomenal, ranging from four to as high as 15 inches in various localities. The ground is soaked to a great depth, vegetation is at its best, and anybody coming in on our overland trains would be very likely to form a false conception of the beauty of our foothills by the way they look now. I have never seen a finer growth on the button sage at this time of the year than at present; but for all of our good prospects we may not be able to harvest the crop that many anticipate. The spring is unusually early, but may be late yet if the winter should be like that of 1905. Both March and April may yet be cold and backward, as was the case that year after a warm January and February. In case warm and open weather should continue, the season will arrive before the bees are ready for the harvest.

However, the condition of the soil and the great amount of water stored therein will doubtless prolong the blooming season of our honey-plants to such an extent that there is almost sure to be a good harvest.

* * *

AN OPPORTUNITY AND A PREDICAMENT.

There are some opportunities ahead of us that I wish to point out at this time, even though we are likely to pass them in our eagerness to take toll as heavy as possible from a good season. There is an opportunity ahead to eradicate almost entirely black brood (European foul brood) by taking advantage of a heavy honey-flow to retard the progress of the disease while we are getting our colonies requeened with good vigorous Italian stock. If every beekeeper in the southern part of the State would make it a point to Italianize, our trouble by another season would be so limited that there would be no grave fears in any quarter. The chances are, however, that many will not do so, and the disease will linger among the careless for years to come. Those who do requeen with good resistant stock will be paid for their trouble, and at the same time will lessen the chances of the disease becoming malignant.

A predicament that we shall see to our sorrow, if the prospective good season does arrive, is that of a big supply of honey on hand among a disorganized force of beekeepers while the buyers are organized to make the best of the disorganization. That is business on their part, for they can see ahead. It is foolishness on our part, and we shall realize it when our fine sage honey drops to a figure much below what we even let ourselves dream of now. We can not blame the buyer. He is "on to his job." The entire trouble is that we have failed to form a mutual agreement by which we may hold the market of sage honey in our hands. The buyers could then go to our representative for his honey at a figure fair to both the buyer and the producer. But we are willing to let the other fellow make the market, and buy at a price fixed by himself; so if we get "stung" we shall know who is to blame for the pain. We meet together once a year, and resolve to resolve to resolve. We appoint committees to resolve further, and at the end of another year we are ready to begin anew the same old process. I wonder if we shall ever wake up. Perhaps about half of us will at a time, while the other half is sleeping.

Beekeeping in the Southwest

LOUIS SCHOLL, New Braunfels, Texas.

TEXAS HONEY PRICES, AGAIN.

Several times we have discussed honey prices and market conditions of the past season in Texas, and several letters of comment have come in. Below is one.

I notice that you advocate that beekeepers of Texas get together and agree on a more uniform selling price of their honey. I believe this ought to be done. I can not see why we can not have quotations of prices of honey in Texas published in GLEANINGS twice a month as other sections of the country are represented in the Honey Column. It would help some. I am often at a loss to know what price to ask for my honey when the season opens up. I do not want to undersell any one, so I have to guess at about what it may be selling at.

Tehuacana, Texas.

T. M. JONES.

The above communication has brought on another thought—that of quoting the price of honey in the Honey Column of this journal so that the Texas beekeepers, and others too, who may be interested, can keep posted to a certain degree at least. I have recently met a number of beekeepers who told me that they found, after they had disposed of most of their honey at a certain price, that they could have obtained a little more for it if they had had some means of learning the reigning market price at that time.

Can you not arrange in some manner, Mr. Editor, to give our readers such quotations as mentioned above? I feel that this service would be highly appreciated by a large number of them. [We will see what can be done.—Ed.]

* * *

THE EVIL EFFECTS OF SELLING OFF-GRADE HONEY.

There are two evils that are responsible to a marked degree for causing low honey prices. One of these is the beekeeper who does not read bee-journals nor keep posted on the market price of honey; and who, when he does have some honey to sell, simply dumps it on the market at any ridiculously low price that he may be able to obtain. The other evil is the beekeeper who puts inferior honey on the market at any low price that he may be able to get for it. Either one of these beekeepers will have a tendency to affect the entire honey market and bring down the price.

Under the first class we may place the large number of small beekeepers who own only a few colonies, and these, perhaps, in box hives. Those of this class do not care to keep up with the times; and since the amount of honey they have to sell is usually small they are not so particular about the difference in the price they obtain and that at which they ought really to sell.

However, there are a great many beekeepers who have a much larger number of colonies who can be put in this same class. And the amount produced by all of them amounts to enough to cut quite a figure.

With the beekeepers who put inferior honey on the markets we can class some of our better beekeepers as well as the smaller fellows just mentioned. It has surprised me many times to find some of our well-posted beekeepers putting up honey for the market that we were sure they knew ought not to be offered for sale. It often happens, however, that many of these beekeepers must dispose of every bit of honey that they can get together in order to make ends meet. This is especially true during less favorable seasons, and it is during those years that inferior honey is more plentiful. This is not always the case, however, for we have found honey in many of the stores we had occasion to visit on our trips during the most favorable seasons that ought not to have been packed at all. Much of this was packed with fancy honey, and this made the contrast between the good and the bad so much greater. While the mixed lots of honey were a drug on the merchant's hands, good honey was in strong demand. But the chance of selling these merchants more good honey was cut off because they were stocked up and would not buy until this "stuff" was disposed of.

It makes a great difference if the merchants can get good honey and keep it moving off their hands. It gives room for other purchases, and in this manner large quantities of honey can be moved off on to the consuming masses. How different, though, if the merchants are loaded up with inferior stuff that they can not move! During the time it remains on the hands of the merchants there is little chance of moving more honey, even though it be of better quality. The result is that the market becomes more or less demoralized. The merchants hesitate about buying more honey, even after they have succeeded in disposing of the "stuff."

It is to be hoped that more attention will be paid to these most important matters. The difference of even only a fraction of a cent per pound more for our honey is to be considered seriously in this time of greater cost of production and higher cost of living, and with the honey price not keeping the same pace of advancement in price with other commodities. The margin between profit and loss is not great enough to permit of much carelessness.

Conversations with Doolittle

At Borodino, New York

THE HARD OR SUGAR MAPLE.

"Will you tell which is the first thing in the spring to give the bees a good send-off on their way to a successful gathering of surplus from the white clover? We have plenty of the hard or sugar maple about here. Is there any thing better than this?"

Any beekeeper who has a spark of love for his pets is all awake for the season when the first song of the bluebird breaks forth on the air, and the musical croak or peeping of the frog in the pond is heard once more. And especially is that apiarist interested when the workers of the hive begin to bring in the first water, and when scanty loads of pollen can be seen in the pollen-baskets after a search far and near for this great incentive to brood-rearing. He knows then that active brood-rearing in such a colony has commenced. With us such activity commences with the pollen furnished by the skunk cabbage, this being found from three to ten days earlier than from any other source. Then comes pollen from the various pussy willows, and a day or two later that from the soft maple and the swamp elm. These last furnish a limited supply of nectar, or enough at least to enable the bees to pack the pollen in the pollen-baskets without carrying honey from the hive, as is done with most of the very early pollen-bearing flowers. I know of nothing more cheering to the heart of the wideawake apiarist than the bees scrambling into the hive with their loads of pinkish-hued and yellowish-green pollen from these two sources, for they forecast a successful harvest from the white clover and basswood. These flowers lay the foundation for the great army of workers needed for the gathering of the harvest in June and July.

Yet, notwithstanding this, the harvest would be meager were not these sources followed a week or two later by something which enables the bees to complete the structure that is necessary over this foundation. And this something is the bloom of the hard or sugar maple. Occasionally there is a year when a heavy freeze, or cold rainy weather cuts off the maple bloom, in which case the army of bees which are generally reared in time for the harvest do not materialize unless the apiarist is awake to his job and provides plenty of honey for each colony so that there is no disposition to retrench in brood-rearing during the time of scarcity which, under such circumstances, occurs between the soft maple and elm and the fruit bloom, the latter a week to ten

days after the hard maple. Especially necessary is this maple bloom when the fruit bloom is cut off by bad weather, which is far more liable to be the case than with the maple, as there is only an occasional year when the maples fail, while a good yield from fruit bloom is the exception rather than the rule. Then the hard maple possesses a quality inherited by no other tree with which I am acquainted. It not only yields pollen the most bountifully of all trees, but gives a fairly good yield of nectar at the same time; and, coming as it does in ample time to incite the bees and queen to the greatest activity in brood-rearing, where this tree abounds the apiarist is assured of a good yield from clover and basswood unless the weather is unpropitious, or unless the bloom should fail from these two last greatest in value of all the nectar-producers here in the white-clover and basswood belts in the northern United States and southern Canada.

One reason why hard-maple bloom rarely fails of giving the bees a good chance to work on the bloom is that the bloom is held in the bud for a long time in unpropitious weather; and just as soon as the sun comes out bright and clear, and the air begins to become balmy, out will come the flower-buds, hanging from long golden threads, and often in less than 36 hours a tree which looked as though it would not bloom in weeks comes out in full bloom, looking as though each twig were a festoon of silver and gold, as bright in color as a bed of dandelions when in full bloom, and giving whole tree-tops a glorious appearance. And one of the strange things, and a fact rarely noticed except by the close observer, is that at the first blossoming stage there is scarcely a leaf put out till after the buds have mostly opened, inviting the bees to a sumptuous feast which they are on hand to enjoy from early in the morning till late at night.

In my first years of beekeeping I thought that the combs got pollen-bound from the enormous quantities of pollen stored, where good weather lasted till the wind-up of this bloom; but later I found that, before the fruit bloom put in an appearance two weeks later, this pollen was nearly if not quite all turned into brood, with which nearly every available cell in the comb was teeming. Then, besides this honey and pollen coming to the bees, there is another marvelous sweetness coming from the evaporated sap which flows in early spring from any wound that may come to the tree.

General Correspondence

SWARM PREVENTION AND SWARM CONTROL

A Definition of Principles

BY J. E. HAND

It is well known that the conditions that favor section-honey production are likewise productive of swarming; hence it behooves the producer of the most fancy product of the apiary to adopt methods and principles of swarm management. There are two separate and distinct principles involved in the operation, known as "swarm prevention" and "swarm control."

SWARM PREVENTION.

Swarm prevention, as its name implies, is supposed to prohibit swarming entirely. While many have laid claim to successful swarm prevention by manipulation, such claims have not been well sustained; because, in order to accomplish it, the colony is usually thrown so far from a normal condition as to render it practically unproductive during an ordinary clover harvest. The dequeening method is generally conceded to be the most effective in this class. It consists of rendering the colony queenless for ten days, and removing queen-cells at the beginning and end of that period. Since queenlessness is an abnormal condition that has a deleterious effect upon the working qualities of bees, little can be said in favor of swarm prevention by dequeening. There are other principles of prevention by manipulation, but they are all more or less objectionable.

SWARM CONTROL.

Swarm control is different from swarm prevention, in that it does not prohibit swarming, but governs, directs, and conducts it along lines that harmonize with the swarming habit of bees. Chiefest among methods of swarm control is the shake-swarm method. It consists of substituting the artificial for the natural swarm after queen-cells have been built. It is natural, because it satisfies the swarming impulse. It is profitable, because it places the swarm in precisely the same condition as though they had voluntarily migrated to a new domicile—a condition that ensures the best work that bees are capable of performing. It is economical, because it admits of swarm control by mechanical means, which eliminates excessive labor, such as moving heavy hives, peddling combs of brood about the apiary, etc. There are other principles of

swarm control, but they are all more or less objectionable because they ignore psychic conditions of bees and its influence upon their working qualities. We may prevent a horse from running away; but if he refuses to work he is of little account, for we have lost control of him just as much as though he had run away; and the same condition will apply to bees.

SWARM CONTROL BY MECHANICAL MEANS.

While the basic principle of swarm control by mechanical means has been exploited at frequent intervals during the past quarter-century, the correct method of applying the principle as herein described is a recent invention for which a patent was granted in 1911. The equipment consists of a bottom-board wide enough to accommodate two hives side by side, said bottom-board being equipped with a simple device that is out of sight under the hives, and is capable of shifting the field force of a colony into an empty hive, or of two colonies into one hive, by turning of two switches, the ends of which protrude from an entrance on each side of said bottom-board.

Here is the method: Begin operations for swarm control by placing a hive with full sheets of foundation and a queen-excluder on the vacant side of a switch-board beside a strong colony that has queen-cells started. For convenience we will designate the colony as No. 1 and the hive as No. 2. Move levers so as to close both entrances to hive 1, which will direct all comers into hive 2 without changing the appearance or position of the entrances, which are wide open when viewed from the outside; hence bees will enter the new hive through their accustomed entrance without any hesitation. Transfer the supers to 2, and shake most of the bees off the combs of 1, letting them run into 2, making sure to get the queen also. Insert a flat conical bee-escape in the entrances back of the levers, so that no bees can leave hive 1 except through the escapes, which discharges them close to the entrances to 2, which they will enter on returning from their first flight. No. 2 will thus receive constant re-enforcements of young bees during the next three weeks; and if the harvest is of long duration it may prepare for swarming in spite of the

treatment. In this case the operation is reversed, and the bees are shifted back into 1, in which conditions that favor swarming do not exist. The second shift will not be necessary in an ordinary harvest from clover and basswood. This method is positive in operation and results, and is superior to any other method of swarm control that I have tried; furthermore, it will cure an or-

inary case of foul brood, while the shake-swarm method as usually practiced will have a tendency to scatter it broadcast. There are many ways in which this simple equipment may be utilized for the economical control of bees by mechanical means, but this article is limited to swarm management.

Birmingham, O.

A NEW JERSEY HONEY SPECIALIST

BY E. G. CARR



C. H. Root, of Red Bank, N. J., the only producer in the State who devotes his entire time to the business.

About 15 years ago a swarm of bees alighted near a wood-working shop of Mr. C. H. Root, at Red Bank, Monmouth Co., and then was started a beekeeping career which has been one of if not the most successful in New Jersey. Mr. Root is a skilled wood-worker, and at the time had a number of employees, and had given such close

application to business that his health had become impaired, making it necessary for him to abandon his regular work.

Having always been very active he quickly realized that idleness would not be desirable, and that some light work would be beneficial. He began to inquire into the possibilities of beekeeping as a business. He early realized the importance of avoiding costly fads and mistakes, and adopted the plan of appealing to a beekeeper in whom he had utmost confidence when any problem or new plan presented itself.

Living in a city of 8000 population, Mr. Root at once adopted the small outyard system, and has since successfully kept to this plan. He now operates about 300 colonies in eight yards, situated in all directions from Red Bank from $1\frac{1}{2}$ to 8 miles distant. These are all on the premises of fruit, berry, and vegetable growers who appreciate the good services of the bees and are glad to have them there, a number of them having requested that the bees be so placed. Five of the yards are worked for extracted and three for comb honey. The

comb-honey yards are successfully run on the Doolittle plan. Mr. Root finds that shaking "*a la Doolittle*," however, will not always prevent swarming, particularly if the colony has contracted the swarming fever previous to the shaking.

Eight-frame hives with Hoffman frames are used in two yards, and ten-frame hives in the others, the ten-frame size being preferred. The $4\frac{1}{4}$ square plain sections with fences are used for the comb-honey work. Only the necessary tools are kept at each yard, and the honey is hauled home for extracting, and for grading and packing.

Previous to 1913 a bicycle was used to visit the yards, and a horse and wagon to do the hauling; but this season a Ford runabout is being used with perfect satisfaction, both for visiting yards and for the hauling, Mr. Root having built what he calls the working body, which he uses, just back of the seat in place of the regular equipment. This is quickly detachable.

The entire work is done by Mr. Root alone—not only the producing but also the packing of the comb honey. The entire crop of extracted honey, with the exception of about 50 one-gallon cans, is put up in $\frac{1}{2}$, 1, and 2 pound jars. The crop for 1912 was nearly ten tons.

It would be difficult to find a more particular honey-producer. All hives are put together with painted joints, and the same degree of thoroughness is characteristic of all his work. An equipped wood-working shop, and his skill and connection with the lumber trade, enable Mr. Root to make his bottom-boards, hive-stands, covers, and winter cases, and no factory-made goods could excel them. He does not think it would pay him to make hive-bodies or frames.

A summer visit to Mr. Root's yards will show an idea which appears to be original with him. The summer hive-covers are of the telescoping type, three inches deep and of half-inch material; but instead of being



One of C. H. Root's apiaries near Red Bank, N. J.

roofed with metal they are covered with canvas brought down and tacked under the bottom edge, and given three coats of paint. This is a cover that will not blow off, leak, or become hot when in the full sunlight, and does not require frequent painting.

It is a generally accepted statement that beekeepers are particularly weak on the selling end; but Mr. Root seems to have been very successful in this respect in selling through a broker who gets him 16 cts. for comb honey, f. o. b. his depot, and such a price for the extracted honey that it nets

him 12 cts. after deducting all expenses for glass, labels, packing, and labor figured at a good price per hour. While Mr. Root is the only one at present in New Jersey who devotes all his time to producing and marketing honey this is no indication that this may not be done in a number of other places; but it rather goes to show the possibilities of specialization along this line in this State.

Mr. Root is ex-mayor of Red Bank, and the present president of the New Jersey Beekeepers' Association.

New Egypt, N. J.

REPORT OF NEW JERSEY CONVENTION

BY C. D. CHENEY

The 1914 meeting of the New Jersey Beekeepers' Association, held in the Entomology building at the State Experiment Station at New Brunswick, Jan. 21 and 22, may be set down as the most satisfactory meeting yet held by the association.

Several gentlemen on the program failed to appear or send a paper; but these lapses were overlooked amid the abundance of discussion in which Mr. A. C. Miller, of Providence, R. I., Mr. George M. Steele, of Philadelphia, and others took part. The matter of winter feeding was discussed in its various phases, Mr. Steele saying that his experience was most satisfactory with block sugar dumped directly on the frames and

covered with table oilcloth (cloth side up), in a dry climate, or with burlap in damp situations, the idea being to secure about the right moisture to enable the bees to take the sugar without waste.

Mr. Miller described very carefully and minutely how to make Fuller candy, and pinned his faith upon it, claiming earlier brood-rearing, and no danger of getting any of it stored in the surplus. Incidentally he mentioned that his friend Latham had demonstrated that five pounds of this candy would carry a colony through without other stores. This statement, being so much at variance with the accepted standard, caused the assembled beekeepers to gasp. Mr.

Hornor had just before stated that he had fed two barrels of block sugar, giving each colony 15 to 20 pounds, and had two barrels yet to feed!

The evening session was even more interesting. Mr. Miller gave a talk on "The Dollar and Cent Side of Beekeeping," and it was very evident that his training as a banker had certainly qualified him to figure things down to one-half of one per cent, and then multiply. As usual in bee "talks," many most interesting and instructive topics were brought in and discussed, and many side-lights were thrown upon matters only indirectly related to dollars and cents. Mr. Miller stated, in reply to a question, that he had at one time a considerable number of colonies of yellow Italians, but that he "was glad to be rid of them—they are the worst of sneak thieves."

This remark caused a roar of laughter, as Mr. Miller had unwittingly trodden upon Mr. Steele's toes. Mr. Steele retorted by saying his yellow bees are not that kind. They are very gentle, and he never has any robbing. Mr. Miller said, "Put some highly colored feed in your dark-Italian hives, and

in a day or so you will find it *all* in the yellow hives!"

Good-humored tilts like this made things interesting throughout the meeting, and Mr. Steele was subjected to considerable "joshing," which he met with characteristic humor and energy.

It is not possible, in a brief account like this, to do justice to the paper by Dr. Phillips, on "Two Essentials in Honey Production." Suffice to say he threw new light upon well-known methods by explaining the bearing and relation of various scientific principles. The ground was thoroughly covered and fully discussed.

Mr. C. H. Root, of Red Bank, was re-elected President, and Mr. E. G. Carr, of New Egypt, was also re-elected Secretary-Treasurer.

There was a rather small display of honey and wax, for which prizes were awarded. The "newest useful invention" presented was adjudged to be the tube bee-escape for transferring and treating foul brood without shaking. This also received a prize. Many new members were enrolled.

Hoboken, N. J.

BEES MOVED EGGS FROM ANOTHER HIVE AND REARED A GOOD QUEEN

BY W. L. MILLER

I notice that Dr. Miller, in his *Stray Straws*, Jan. 15, doubts whether bees ever actually move eggs from one hive to another. I had an experience last summer that has absolutely convinced me that bees actually do steal eggs and move them to their own hive in time of need.

Last June I hived a swarm that had issued from No. 3. In hiving I saw that they had a very fine-looking queen which, of course, went in with the rest.

About a week later I had occasion to look in this hive to see if every thing was all right. I found about five completed combs nearly full of honey, and some pollen, but no eggs nor brood. All the combs were carefully looked over for the queen, but she was nowhere to be found; so, thinking that I had possibly missed her, I went on, hoping all might be well by the next time I came around.

Exactly a week later I again could find no eggs nor brood; and after shaking all the bees through a queen-excluding zinc, and finding no queen, I sent for one. A few days afterward, on again looking in, I found a lone egg. A diligent search was at once made for more, and two more were found, one in the same comb and one in another.

No queen could be found. It was not the work of a laying worker, as I had been troubled with them before and could see that it was none of their work.

This was something I had never before encountered, and the developments were noted with jealous care. Queen-cells were built over all three. They were sealed. The day before they were due to hatch I accidentally destroyed one of the cells. The next day I found the two cells hatched and two large vigorous virgins on the combs. A few days later one was found dead in front of the hive. The other was in the hive, and mated. Five days later this queen began laying and kept at it all summer. I still have her to-day, and she is just as good as any I have ever bought.

This incident has made me a staunch supporter of the theory that bees do move eggs from one colony to another. I should also like to say that the Miller plan of introducing queens by the smoke method is by far the best way to introduce queens. I tried it for the first time on the very day that I received the issue of *GLEANINGS* containing it, and have used it every time since, and have yet to fail the first time.

Stephenson County, Ill.

DOUBLE-LENGTH SECTIONS CUT IN TWO

Furnishing the Bees a Larger Frame in which to Make Comb Honey

BY ELMER GRESSMAN

I have often had combs of honey built in frames as straight as a board, with nice white cappings, and have wished that it were only in sections, so that I might realize the price of fancy comb honey. I have tried selling the large combs at a reduced price, but with poor success.

I have quite a trade in extracted honey in 5 and 10 lb. pails, but some years ago some of my customers inquired for comb honey. Most of them belonged to the class who are trying to reduce the high cost of living; and being in sympathy with their efforts I took along some nice shallow frames of honey, which I offered at a very reasonable sum, not including the weight of the frame, which I figured out, so there would be no excuse not to buy. My liberality was not appreciated, however, for almost every one said, "Oh my! those are too large. I wanted it in those little boxes."

After explaining that it was harder to produce it in little boxes, and listening to their numerous objections, I made up my mind that I was not equal to a woman in an argument, even in my own line. So I went home with part of my shallow honey a sadder but wiser man. That started me to thinking night and day. I thought that, if the combs were half as large, perhaps I

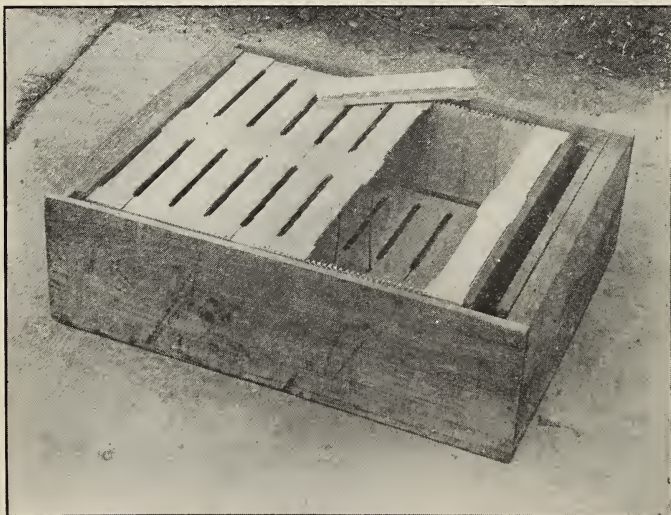
could keep up my end of the argument; but I found later there was no argument needed. Never have I had a complaint about the large size of the section.

The difference in the cost of producing comb and extracted honey is getting greater every year. We see all kinds of inventions to aid in cheapening the production of extracted honey; but if one looks back he will find there has been very little done to improve on the production of comb honey. For this reason it can easily be seen why the drift has been so strong toward extracted honey.

We all know that bees will not work in sections as well as in extracting-frames, and that they are still more averse to them if the sections are divided off by separators. I think my invention will be easily understood by the aid of the illustration herewith produced. The sectional frames are made by pressing together six dovetailed pieces to make a long section which can be cut apart in the middle to make two later on. Of course the dovetails must be made so they will come right. There is a small metal stay to support the top section strip. This stay causes a depression in the surface of the comb right where it should be cut later on, and then the extra sides of the

sections are pressed on, making two complete boxes of honey from one frame. These are then put in a regular shipping-case to drain for a few days. The shipping - case should have a tin tray in the bottom while draining to catch the drip, and exchanged later for a paper one.

There is very little work about the whole process, as the sectional frames can be assembled very rapidly with my press. There is no necessity of putting the sections back on the hive for the bees to finish them, as the artificial side is hardly noticeable. The stay causes a nice

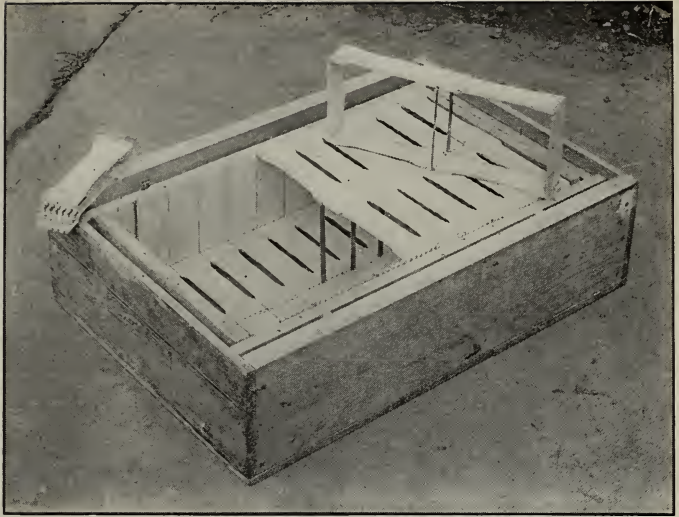


Gressman's super for producing honey in double-length sections. After the frames are full the combs are cut in two in the middle, and the frames taken apart. The fourth side of each section is then pressed on, and the section is ready for the market.

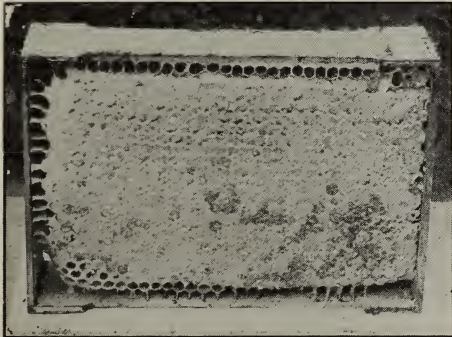
rounded edge like the natural side.

The sectional frames are used crosswise of the super with full sheets of foundation, and with the hive level from front to rear; and with fairly strong colonies straight combs will be the result. If there should be any partly filled combs during a poor season they can be extracted the same as shallow frames.

I would advise two sizes of boxes— $6\frac{3}{4} \times 5 \times 1\frac{1}{2}$ for local trade; a double box fitting a ten-frame super crosswise, or a $5\frac{1}{2} \times 4 \times 1\frac{3}{8}$ for eight-frame supers which can be used on a ten-frame hive if neces-



Double-length section-super adapted for eight-frame hives.



The finished section. Note that the right-hand side is the one that was cut.

sary, provided queen-excluding zinc is used with a wide frame margin at the sides to make it wide enough.

Hamburg, N. Y.

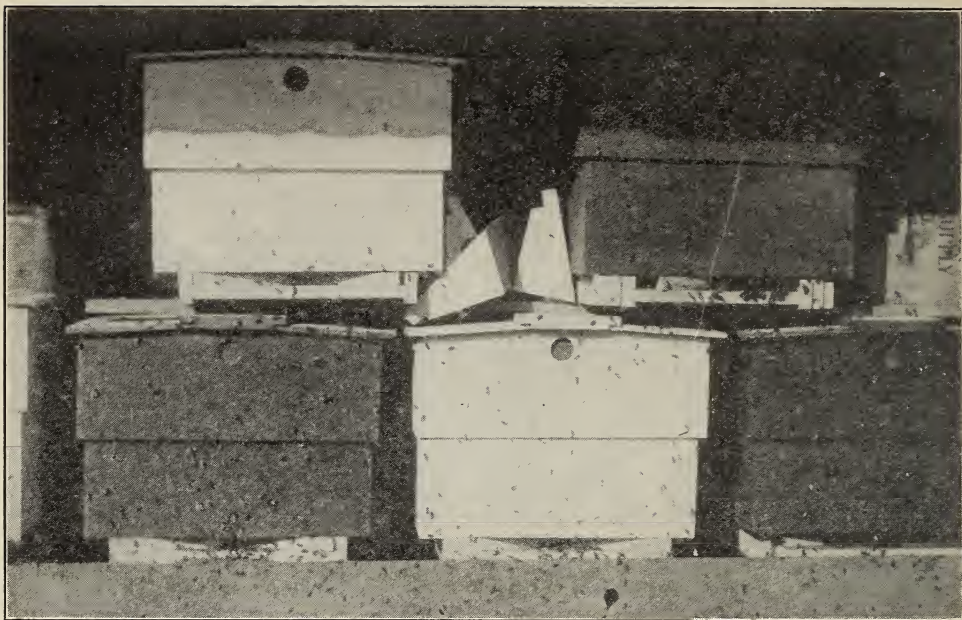
[In our opinion the value of this plan hinges upon one point—viz., whether the bees work more readily in long shallow frames fitted with foundation than they do in small boxes like the regular-sized sections. A number of beekeepers producing comb honey in shallow frames have reported to us that it costs them practically as much to produce the honey in the shallow frames, pound for pound, as in the small sections; that the reason bees enter extracting-supers more quickly is because the combs in the latter are already built. We ourselves seriously question whether the slight advantage gained by the larger frames would make up for the greater amount of labor required in putting together the six-piece frames with the stays, cutting the combs apart, fitting in the third sides, draining, etc. We may be wrong—we have been before—and if we are we shall be glad to be corrected.—Ed.]

EXTRACTING FROM THE BROOD-COMBS BEFORE THE HONEY-FLOW TO GIVE THE QUEEN ROOM

BY GEORGE M. HUNTINGTON

In the production of comb honey, which is the only honey produced in this vicinity, alfalfa is the main source of nectar. I find that, if colonies are brought through the winter strong they will build up and gather new honey for brood-rearing, and there will be from one to two full frames of old honey

remaining in the hive, according to the strength of the colony. The strong ones will have the most left, and will commence to store in the brood-frames so that by the time alfalfa is in bloom (or from the middle of June to July 10, which is the time two-thirds of the honey crop is gathered), the



Bees flying on a warm day in January, from colonies wintered out of doors.
Photographed by Chas. Y. Hake, York, Pa.

brood-chamber becomes clogged with honey, and crowds the queen to the lower part of three or four frames (I use ten-frame hives), so that, by the time the main flow is over, the strong colonies become weak on account of restricted space for brood, and gather little honey the rest of the season.

On the other hand the colonies which are weak at the start will consume all the old honey in brood-rearing, and do not get much of the early honey on account of not having a strong field force at that time, so that their queen does not get restricted in brood space. These colonies will become strong a little late for the beginning of the main flow, but will remain strong throughout the rest of the season, and store twice as much in supers as the former colonies do during this latter period, and they are then apt to be the strong colonies the spring following.

Would extracting two or three frames from the brood-chamber of the strong colonies a week or ten days before the main flow keep these colonies strong the rest of the season? If so, would it stop work in the comb-honey supers? If the queen occupied the extracted combs as soon as returned to the chamber (say there are three combs to extract, and that it is done one frame at a time three or four days apart, and inserted in the brood-nest between the brood, and the season is warm at that time),

there will be no chilled brood. What would be the result in the supers if the bees stop work there?

As to spreading brood, it can be done here any time after May 15 in ordinary years. When I find a colony intends to swarm I brush every bee from the frames and put the frames into a new body, leaving a comb of unsealed brood, and perhaps a comb of honey on the old stand. All the sealed brood (and there will be very little unsealed brood in the new body) is placed on a new stand and queen-cells destroyed, and a new queen placed between the combs as soon as enough young bees have hatched to hold the queen from absconding. I do not lose any brood from chilling. Of course the entrance is made small until there are enough to guard it. The old queen is left with all bees, young and old, to draw out the new combs. This overcomes swarming for the season.

I have never had any spare combs at this season, so I could not put empty combs into the brood-chamber to see what the result would be. I have tried frames of full sheets of foundation, which stops work in supers until the new sheets are drawn out, and the queen prefers the old comb for her egg-laying. I could, to an extent, strengthen the weak colonies by taking hatching brood from the strong and exchanging with the weak for unsealed brood; then both

queens would become honey-bound and gather but very little of the later flow. If extracting from the brood-chamber would increase the amount of brood during the period just before and while the main flow is on, the honey crop of the later flow could be doubled; and even with my small apiary the extractor would pay for itself the first season. The late honey is of a much heavier body than the main flow, and does not grade as high. The main flow is about 75 per cent No. 1; the later flow, about 75 per cent No. 2.

A strong colony produces three cases of honey which has the largest per cent of No. 1. A weak colony produces three cases mostly No. 2. A colony that keeps strong throughout the season will produce five cases averaging more than 50 per cent No. 1.

For extracting from two to three combs per season per colony in an apiary of 75 to 150 colonies, what size of extractor would you advise? The chances are that this will remain a comb-honey territory on account of the heavy body of the honey, and the extractor would be used only to relieve the brood-chamber or for extracting from combs discarded on account of drone-cells or other faults.

Bishop, Cal.

[After reading the above, one can not fail to be impressed by the fact that locality, in spite of the frequent jests whenever the name is mentioned, is an important item to be considered, for it is emphatically true that one system of management will not apply in *all* places by any means. This question of extracting before the main honey-flow is one of these problems that depend upon the locality. In our opinion there are few localities indeed where extracting before the honey-flow is necessary; but under the conditions mentioned by our correspondent it is probable that the judicious use of the extractor in giving the queen room to

lay would be the wise course to pursue. If there is any regularity about the oversupply of stores before the main honey-flow, one might ask whether it would not be better to supply less stores in the fall, and so avoid the necessity of extracting in the spring. Perhaps, however, it would be risky, if not altogether impossible, to do this.

Concerning the use of the honey-extractor in the spring, no less an authority than E. W. Alexander advocated this very thing. We quote from page 28 of Alexander's "Writings on Practical Bee Culture:—"

I honestly think a moderate use of the extractor through the latter part of May and fore part of June, especially when running an apiary for comb honey, would be the means of many beekeepers securing twice as much surplus as they usually do. Here at the North, May is the month of all the year when our bees require the closest attention. It is then that we should care for them so that every inch of comb in the hive may be utilized for brood-rearing that can possibly be used for that purpose. Bring your extractor into use, cleaning your hives of nearly all capped honey, and see to it that every queen in the apiary is doing her very best to crowd the combs with brood; then you will soon have those strong colonies that will give you a fine surplus, and at the end of the season you will hardly believe it when told that the summer has been a poor one for the production of honey.

If the main honey-flow is preceded by a comparatively long period of warm weather, no doubt there would be no risk in using the extractor; but it would seem to us unwise to extract *just before* the main honey-flow, as otherwise the bees would probably have a tendency to put the new honey directly back into the same combs, and it would then be harder to get them broken of this habit than if the honey had been left there in the first place. Moreover, nothing would be gained along the line of providing more room for the queen.

We do not feel competent to cover the whole ground suggested by our correspondent, and we should like to hear from others, therefore, who may have had experience along this line.—Ed.]

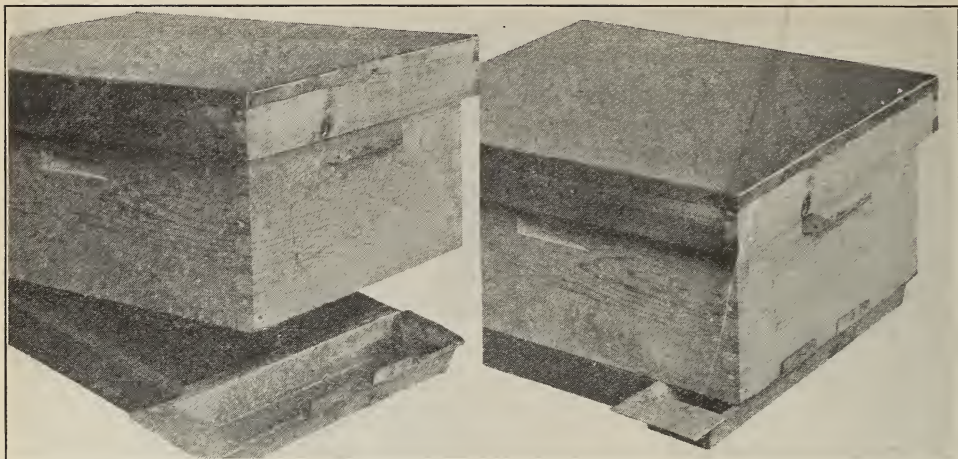
A BOTTOM-BOARD FEEDER MADE ENTIRELY OF METAL

BY JOSEPH FINSTED

The accompanying picture shows a metal bottom-board feeder which has proved more satisfactory than any other feeder I have ever used for feeding bees in cold weather. Last fall I had over 200 colonies that had to be fed from 5 to 20 lbs. each to give them ample stores for winter; but on account of other work I neglected the bees until the first part of October. Being so late in the

season I had planned to feed in a wholesale way so as to be ready with the feeding before cold weather set in; but, alas! when I was ready to go on with the wholesale feeding my plans were shattered on account of cold weather that set in unexpectedly.

I tried several feeders that are now on the market, which are used over the brood-nest; but those feeders failed entirely to



Joseph Finsted's metal feeder, designed to fit under the back end of a hive like the Alexander feeder. Note that the edge of the tin on one side projects enough to rest on the end of the bottom-board, while on the other side it extends straight up, providing easy means of fastening to hive-body with a nail.

attract the bees on account of the cold, so I had to resort to some bottom-board feeder which would bring the syrup or honey in closer contact with the bees. Then, in the smaller quantities, the feed could be stored before getting cold.

I tried the Alexander feeder, but found the capacity too small, and it was also rather difficult to attach it to the hives. I then looked for a feeder that would overcome those difficulties, and at the same time be more substantial and have better lasting qualities than any wooden feeder. The feeder shown answers these requirements,

and it can be used on either 8, 9, or 10 frame hives.

St. Paul, Minn.

[Mr. Finsted does not explain how the feeder can be used under hives of different widths. There are two sliding covers for each end of the feeder. (Only one is shown in the engraving.) When a narrow hive is used, both ends project, being covered by the slide. When the ten-frame is used, only one end projects and the slide on the other end may be removed if desired and not used at all.—ED.]

A SUBSTITUTE FOR POLLEN IN THE HIVE

BY JAMES W. WILSEY

Last March, when I examined my bees, I was much disappointed to find that no brood-rearing was going on. It was evident that brood had been reared in the winter, and there was little pollen in the hives. There was one hive in which I was sure there would be brood as the previous year the queen had kept it full of brood early and late; but this hive had none whatever.

I then took an empty comb, and, laying it horizontally upon a table, I placed a scoopful of ordinary wheat flour on it and worked the flour back and forth with a post card until it filled all the cells. I then rubbed my fingers over the comb to pack the flour down so that it would not fall out when the frame was placed in an upright position. This frame I placed in one of the

hives as far away from the cluster of bees as I could get it. I did this so that I could get at it to examine it without breaking the cluster of bees, as the weather was cold. The effect was magical. Brood-rearing on a large scale commenced at once, and many bees could be seen at work on the frame of flour. I placed similar frames of flour in my other hives with the same result, and my colonies were fully two weeks ahead of the colonies in the neighboring apiaries.

These frames of flour also kept the bees from going out for pollen on cold and windy days, as on such days my bees worked on the frames of flour while my neighbors' went out in the fields and swamps looking for pollen.

We have all seen the yellowish and brown-

ish scales which accumulate on the floors of the hives when much brood-rearing is going on. These scaly particles the bees remove to the alighting-board. As soon as the bees begin using flour for raising brood the bottoms of the hives become covered with white scales, and the scaly particles which they

remove to the alighting-board are also white.

My hives are kept in protecting cases the year around, and the bees are warm and comfortable in the blustery weather of spring.

New Paltz, N. Y.

TRANSFERRING FROM A TREE ON THANKSGIVING DAY

BY AUSTIN D. WOLFE

About 7:30 on the morning of Thanksgiving day, 1912, I looked out of the window and saw my neighbor Ashby coming out of his gate. He had an ax in one hand, a bucket in the other, and he invited me to go with him to cut a bee-tree in his pasture. I took Paul, an ax, and a smoker and veil. This seemed to promise a good appetite for the Thanksgiving dinner.

The tree proved to be a linn (Southern basswood), and fairly solid. We developed considerable sweat before it fell. While we took breathing-spells, a tall sinewy mulatto swung past us at the foot of the hill, with an ax and bucket.

"Better come along o' me, Mr. Wolfe," he called.

"Where to, Nim?"

"Oh! I'm goin' to cut the biggest bee-tree I ever see," he replied; "better come and get some."

I did not go, but remained and saw how much (or how little) Ashby got. The colo-

ny was small, the honey poor. It had not paid for the effort.

But that evening Paul brought me word from Nim that he had taken over 50 lbs. of honey, and that the bees were golden Italians. So next morning we went again, and roamed the timber pasture until the place was located. It was another big linn, lying on its side on the slope, with the evidence of yesterday in chips, bark, and old comb. In the hollow of the trunk there hung as pretty an inverted pyramid of bees as I ever saw. Right then and there I should have photographed them.

Into the frames of the jumbo hive I tied panels of comb found on the ground. Then I set the hive in the hollow of the tree and began work. At first I scooped them by handfuls and dropped them into the top of the hive. Then the smoker came into play. The bees dodged, and hid and tried to escape through hollow branches and behind dead wood, but at last learned the way to



Hive located close to an exposed cavity in the tree where the bees formerly made their home.

the hive and marched there. I worked for two hours, and then was able to record only indifferent success. Nowhere was it possible to catch sight of the queen or to gain a good indication of her location. The shadows began to lengthen under the cover of the hill, and we felt that remaining was useless, so I propped up the hive, with the entrance still in the tree, and left it for the night.

Next morning with the little girls I went to see what further developments were noticeable. There were no bees in the hollow tree, but in the hive was a cheerful humming. Listen as I might, however, there was no indication of a queen. In the early morning, under the shadow of the trees, I made some pictures, and you can see how they turned out. We then closed the entrance, tied down the cover, and carried the hive by hand to the beeyard, half a mile away.

Now the picturesque conclusion should be that the queen appeared; that, under judi-

cious feeding, the colony thrived, and that by the following fall they had yielded a handsome surplus. Alas! not so. While I fed them the bees lived. But there was no weather warm enough to warrant sending for a queen. What the colony might have done under specially favorable conditions is a matter of speculation. Perhaps some other beekeeper will tell what *he* would have done under similar circumstances. February and March were cold, and the bees died. Parkville, Mo.

[This experience only goes to prove that it rarely pays to transfer a colony, even from a box hive, in the late fall of the year. The transferred bees are bewildered, and their nest is not arranged according to their liking; and if there is no warm weather, soon the results are likely to be any thing but satisfactory. If these goldens could have remained in the tree until spring they might have been taken at that time, and built up into a useful colony.—ED.]

CONDITIONS OF THE "LOCALITY" IN GEORGIA

BY L. W. CROVATT

"Locality," that term used by beekeepers throughout the United States in discussions of every conceivable character, is truly blamed for many things; but in reading the articles from the pen of P. C. Chadwick, of California, dealing with the practical failure of the honey yield last season, I am struck with the changed conditions obtaining. This is certainly "locality." To the contrary of what Mr. Chadwick writes, I am constrained to say that in the year 1912, in the southern part of the State of Georgia, we had one of the most successful seasons. The yield was bounteous, and it is an undoubted fact that the natives were better repaid through the energy of their bees than in several years. It appears from reports sent by my friends through the southeastern section that the crop that season was the largest in a long while, the honey being of that transparent delicious coloring and body and flavor that demand the very best prices, and which is calculated, through its snow-white cappings and pleasing contrast to the section wood, to be an ornament to any table, no matter how fastidious.

The bees in this section, where wintering problems may be said to be negligible, built up splendidly for the spring flow (1913); and this being the case, the bees secured the full benefit from the myriads of flowers that, because of the "open character of the

winter," proved to be the most profuse in many years. There was a splendid yield from the tupelo, which seems to be an early spring growth in the swamps of Georgia. The poplar is reported to have been a fine source of nectar; and in later times, when the gallberry came into flower, the bees were working like mad.

The ty-ty, another sure source of surplus, also yielded to an abnormal degree, according to those in the comparatively limited belt, and it has been my privilege to eat some of each kind. Never have I tasted a finer flavor of honey.

The natural result of the big crop is that beekeeping in Georgia, not considering the territory of Bro. Wilder, will be given a stimulus for next year. Neighbors of the successful men have taken notice of the crop this year, and optimism seems to be in the very air.

Considering the fact that we have, in this region, none of the yielding plants regarded as "staples" by brother beekeepers of the North and West—notably clover, basswood, alfalfa, etc., the results of the spring work in Georgia and parts of South Carolina are of a particularly gratifying character.

"Gallberry" may not, perhaps, sound so romantic, as suggested in the A B C; but no one can deny the fact, who has ever



Hunting the bee-tree.

tasted the honey from this plant, that it is a superfine product which is bought with avidity by the general classes who consume honey. From the fact that at least 75 to 90 per cent of this honey is consumed in the South, however, this may explain why the gallberry and ty-ty honey are not better known in the leading markets.

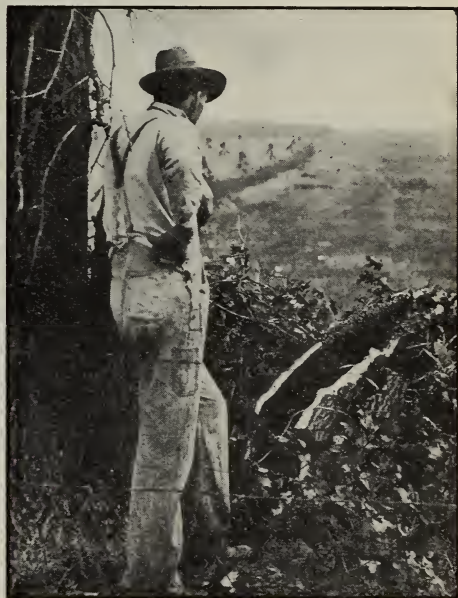
Very frequently some of the big men come out in print with the statement that better values may be secured, or should be secured, for honey. The facts of the case, however, are that the average rural beekeeper is already reaping the harvest from this source, for I find that they are now securing from 12 to 12½ cents per section at wholesale, and the demand is good at these values.

Years ago a buyer could secure all the honey needed at from 8 to 10 cents per pound; but this is now a thing of the past, for the average citizen of the country having changed over to the modern hives from

the old-fashioned box, is securing surplus in splendid marketing condition.

Two young men at Meldrim, Ga., recently purchased an apiary of 75 colonies for \$600. They increased to 160 colonies, and secured 12,000 pounds surplus of extracted honey. The bees were subsequently moved to Pennsylvania for a fall yield.

Another, at Ellabelle, purchased a large number of new hives for section honey. He transferred his entire yard of forty box hives to movable-comb hives; captured 22 swarms in the spring, and has secured several thousand pounds of comb honey, to the surprise and envy of his neighbors.



The trunk cut off four or five feet from the ground.

We may not have another big yield for some years; but the indications are that many people who see visions of some "easy money" will make a try for a crop next year any way. They may reap better than they know.

Savannah, Ga., June 23.

ONE HUNDRED POUNDS OF HONEY FROM A BEE-TREE

BY J. BAKULA

I have often had the opportunity of watching a bee-tree cut at night; but on the special occasion concerning which I write, the cutting of the tree had to be accomplished on a nice warm afternoon, as we had to leave for home that same evening.

The tree was a short scrubby redoak (30 or 40 ft. tall) as often seen at the edge of a field, some twelve or fourteen inches in diameter, I judge it to be now. There were two trees growing from the same stump, so we cut it four or five feet from the ground

in order to allow the saw to enter between the trees.

When we started to cut we discovered it to be merely a shell about two inches in thickness all around, the cut we made being within a few inches of the honey. Cutting away the wood was done in a short time, as large pieces could be split at a time, as it wasn't thick.

It was a shame to tear up the honey, as it was packed in there so close and nice, the combs all being separate and not built together as seen sometimes. It occupied a space of ten or twelve feet. Had the bees had more space I'm certain there would have been much more honey, as the colony was a large one, and it had been there since early in the spring. I judge there was about 100 pounds in the tree.

I shall also have to give you an idea of how I was prepared for the battle. My friend tied a mosquito-bar over my head, but failed to tie it bee-tight, allowing three bees to enter, so that I had a chance to count them. I had on gauntlet gloves with handkerchiefs tied around my wrists. As I chopped, the handkerchiefs worked off, allowing the bees to get at my wrists; but I was game. I stayed to the finish. When completed I discovered



Section of the hollow log with one side split off, exposing bees and honey.

my wrists somewhat larger than usual, and I had a double chin, which prolonged my stay in the country a day longer. The next morning quite early the bees were all settled in a bunch underneath, so they were easily swept into a hive with a whisk-broom.

Dubuque, Ia.

[The fourth picture, showing some of the honey obtained, is given on the cover.—ED.]

THE ACT OF AN OUTLAW

BY THE OUTLAW

Continued from the March 1st issue, page 177.

Adjoining the house was a garden of semi-tropical trees and shrubs. This garden was the property of certain people, living several thousand miles away—heirs of an eccentric old man. During the old man's lifetime the garden had been one of his hobbies; but since his death the garden had

received but little care. It was in this garden, screened from passers-by along the streets, that I placed my hive of bees.

GETTING COMBS BUILT.

As I have previously stated, I used no foundation. Not one penny in money have I spent to acquire any thing whatsoever

necessary to the upbuilding of the colony. The procedure I followed was this: Three days after hiving the swarm I took all the comb built up to that time; and with the aid of a piece of twine string I tied the bits of comb into a frame. From that time on, additional frames were added as necessary, care being taken to place the new frame between two frames of unsealed brood whenever possible. From experience in making increase I have found that comb will be built faster, and will be more apt to be worker comb when the empty frame is placed in the manner just stated.

In the matter of avoiding drone comb, there is another little kink that can be practiced. That is, when drone comb is built, to make a practice of tearing it out, then reversing the frame end for end. The result is that quite often the bees think they have that drone comb yet, and build worker comb in place of the drone comb you have removed.

In order to practice successfully the foregoing, it is necessary to go through the hives two or three times a week, depending on how fast comb is being built. It might be well to state also that the practice outlined is in case comb is being built in the brood-nest. Surplus comb is a different matter. If store combs are being built it is best to let them build them as the bees see fit, or use foundation if you want worker comb.

And here, perhaps, a few remarks on the subject of wax production might not be out of the way. Some years ago this matter, aside from honey production, was quite widely discussed; and at that time, under certain conditions, I practiced wax production successfully. It was in Cuba. There, as is well known, the honey season is in the winter season during the campanilla bloom. However, the swarming season is in the summer months, from April to October, and during these months the bees transpose all the honey gathered into brood and wax—the rule being that it is almost impossible to secure any surplus honey during the summer months. As increase was not wanted, my object was to produce wax in place of bees. The method used was to have nothing but worker comb in the brood-nest, and quite often the brood-nest was contracted. In the super, every other comb was removed, care being taken to leave only worker combs. Empty frames were then placed between the combs in the super, and a queen-excluder between the super and brood-nest. The result was quite successful, the bees building drone comb in the empty frames; and as the bees desired and

expected the queen to lay in the drone comb so built, they held it open, no honey being stored in the new comb. All that was necessary to complete the operation was to make the rounds of the hives every week and cut out the comb so built. This procedure quite successfully held down swarming, and converted the surplus energy of the bees into profit.

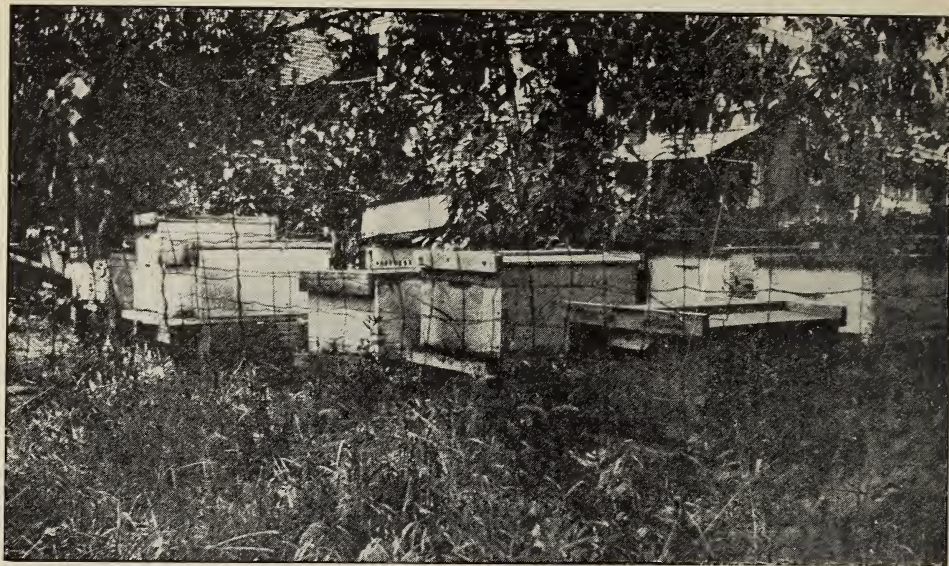
The problem here confronting me with my little swarm of bees was to build them up as strong as possible; get all the comb built that could well be done, so as to have something to work with when the real honey-flow came on in the spring. As I have previously stated, it was at the end of the honey-flow when I captured my bees. While the summer flow here is in many ways similar to the summer flow in Cuba, yet the bees have no desire to swarm. They seem to know that the winter months will bring hard times, and not a time of prosperity.

At the end of two months my colony had completed eight combs, which number filled the hive, and with the completion of the eighth comb there was another problem. To have attempted to have the bees build in the super would have been out of the question, for two reasons: First, they were not strong enough, even under normal conditions, to have allowed a sufficient cluster of bees to be formed in the super to build comb; and, second, had there been enough bees, there was not a sufficient flow of honey to induce them to build in the super.

But the bees could and would repair a breach made in a vital part of the brood-nest. So I continued as before, placing an empty frame, one at a time, between two unsealed frames of brood, the combs that were removed being placed in the super, with the result that I continued to get a frame of worker comb built every week or ten days, where, had the bees been left to their own devices, they would not have built an inch of comb.

THE ANNUAL CLEAN-UP DAY.

While matters were thus progressing smoothly within the hive, a cloud appeared on my horizon in the form of an announcement, made by the mayor of the city, to the effect that September 10 would be the annual clean-up day. Clean-up day, I might state, is an annual occurrence here. A proclamation is issued by the mayor of the city, and every householder and property owner is requested to put matters right about his premises. Briefly stated, it is a universal external housecleaning in which the entire city participates. This meant that the representatives of the heirs who owned the land where the bees were located



Seventeen colonies on a 25 foot lot in Kansas City, Kan. See article by A. T. Rodman in last issue.

would follow his usual custom of hiring two or three men for a day to prune and trim the trees and shrubs of the garden; and if the bees were allowed to remain, it meant their discovery, and the opportunity of my being a defendant in the police court, together with the confiscation, or at least banishment, of the bees from the confines of the city. In the language of Grover Cleveland, I was "confronted with a condition, not a theory," and that meant that something had to be done.

Where the true nature of a condition is understood, there is, as a rule, some way in which to meet it. While Robert Burns stated a truism when he sang—

The best-laid plans of mice and men
Gang aft a'glee,

and uttered a thought that has been a popular saying ever since, nevertheless the only reason for the sad accident recounted by Burns was a lack of knowledge of the conditions; for had the mouse known and taken care to build its nest lower down than a plow-furrow, Burns would never have had cause for lament. For my part, I took the initiative, with the result that the proclamation of the mayor, the deed of the caretaker, and the acts of the laborers came to naught, and the bees remained within the confines of the city.

To be continued.

TENNESSEE BEEKEEPERS' ASSOCIATION, NASHVILLE, JANUARY 30

BY J. M. BUCHANAN, SEC.

A most interesting and instructive meeting of the Tennessee Beekeepers' Association was held at Nashville on Jan. 30, with perhaps the best attendance in the history of the Association. Papers and addresses on vital topics, together with lively discussions, took up the entire day.

The opening address was by the President, Mr. J. M. Davis, of Spring Hill, whose subject was "The Bee as Man's Co-worker." He gave an outline of the history of beekeeping, and showed the value of the work of the bees, both in the production of honey and wax, and in their aid in the

fertilization of fruit-bloom. He pointed out the fact that the apricot is the only stone fruit that is not dependent on the bees or other insects for the proper pollination of its blossoms.

"Fancy Comb Honey in Spite of Foul Brood" was the subject of a talk by L. F. Watkins, of Nashville. Mr. Watkins told how, in addition to managing a farm of 200 acres, he had cleaned up an apiary of nearly 100 colonies badly affected with American foul brood, and at the same time had produced a good crop of fancy comb honey.

In a discussion on marketing honey a number of good points were brought out, and emphasis was given to the need of proper grading and packing, and also to the advantage of holding up the price. It was shown that it is folly to spend time and labor producing a crop of nice honey and then selling for whatever the merchant offers. There is a demand for all our product in the local markets, and at good prices.

Another discussion was in regard to controlling swarming. It seems that most of the members just "let 'em swarm," as that seems to be the easiest way to "control" swarming. It was pointed out that, in the production of comb honey, with prolonged and intermittent flows such as we have, there is no satisfactory method of prevention of swarming. It is, perhaps, as well to allow them to swarm once, and then throw the strength of the colony to the swarm. When working for extracted honey it is a much easier matter, as was stated by B. G. Davis, as the use of young queens, plenty of storage room, particularly of drawn combs, and good ventilation, would go a long way toward solving the problem.

Miss Mira Tandy, of Nashville, gave an address on "Beekeeping as a Supplemental Course in the Public Schools." She favored the organization of beekeeping clubs among the boys and girls, after the manner of the boys' corn clubs. Such clubs would create an interest in beekeeping, and she thought

would help to keep the boys and girls on the farm.

Dr. J. S. Ward, State Apiary Inspector, gave a review of the inspection work for the past season. He said there was a marked improvement in the foul-brood situation in the State, and that, with proper care, the disease could be kept under control. Dr. Ward spoke of the symptoms, and gave the methods of treatment recommended for the disease. He showed that the introduction of a hardy strain of Italian stock is essential in the cure of European foul brood. As for sacbrood, he thought a change of queens all that was needed, although this had not been thoroughly tested. He said he had seen whole apiaries wiped out by sacbrood.

A paper by Porter Ward, of Elkton, Ky., was read, in which he told of producing ten thousand pounds of honey from 100 colonies, besides running a farm of 150 acres. This was bulk comb honey, and, by the way, this seems to be quite a popular way of packing honey in this State.

The following officers were elected for the ensuing year: President, T. J. Ayers, Cedar Hill; Vice-president, W. B. Romine, Pulaski; Secretary, J. M. Buchanan, Franklin. Dr. J. S. Ward and J. M. Buchanan were selected as delegates to the National convention at St. Louis.

After the convention adjourned, an hour was spent in a general social chat, which was enjoyed by all.

Franklin, Tenn., Feb. 4.

WISCONSIN STATE BEEKEEPERS' CONVENTION

BY HARRY LATHROP

The annual meeting of the Wisconsin State Beekeepers' Association was held in the assembly chamber at the State Capitol, Feb. 3 and 4. The attendance, while none too large, was better than it has been in late years. Considering the resources of the State for beekeeping, we should have one of the strongest State associations in the Union; whereas we have hardly an average in numbers. I think the reason is, our State is so rich in other agricultural resources, especially in dairying and stock-raising, that organized beekeeping is crowded out.

At the opening of the convention, the Secretary, Gus. Dittmer, announced that our President, Jacob Hoffman, had died during the year; and Vice-president Wilcox not being present, it would be necessary to appoint a temporary president. N. E. France, State Bee Inspector, was appointed,

and took the chair. He introduced, as the first and principal speaker, Rev. Father Jaeger, of Minnesota. Mr. Jaeger is at the head of the Department of Apiculture in the Minnesota State University. His topic was, "The present needs of beekeeping." "First," he said, "we should look forward to see what is the goal or object toward which we are to work." This goal, as he stated it, is the placing of beekeeping upon such a solid basis that it will yield a fair profit. He called attention to the fact that, years ago, when the farmers made and sold butter of all grades, colors, and flavors, the price was very low. Since the dairy interests have been organized, and the product made uniform and excellent, the sale has greatly increased, while the price has been getting higher all the time. The ultimate aim of the beekeeper should be the produc-



A. T. Rodman's apiary on a quarter-acre plot in Kansas City, Kan. See article in last issue.

tion and marketing of the perfect section. and then the price will follow. One great need, he said, is leaders. "Too many keep bees who are not beekeepers. We need men and women who have the time, disposition, and will to devote themselves to the occupation of beekeeping."

"Casual beekeepers will not advance the industry; real beekeepers will produce and place upon the market a good and uniform product."

"The aid of the State is also needed, and the State must be impressed that beekeeping amounts to something."

He told of the independent department of beekeeping in the University of Minnesota, and how it was secured through the legislature and *not* by the consent of the university. "Beekeeping," he said, "would bring as good returns as any other branch of industry, and the beekeepers must have the help of the legislature."

At the close of the address Mr. France stated that last year our legislature made a new law carrying an appropriation of two thousand dollars, which was secured easier than the one we got seventeen years ago carrying five hundred.

Next followed a paper on the subject, "Should a Young Man Specialize in Beekeeping?" Opinions differed on this. Some thought it best, while some advised going slow and combining beekeeping with some other business.

Mr. Allen, our delegate to the last National convention for 1913, was called on for his report, which he gave. He related

mostly what has been published in the journals, but spoke in particular of the fact that he had been one who did not approve of the purchase of the *Review* by the board of directors.

I will here state frankly that the Wisconsin association, as a whole, does not seem to have confidence in the National organization. There is not a good feeling. The sentiment was freely expressed that they were dissatisfied with the change in constitution whereby the National lost its protective phase.

Some spoke of a movement to start an independent National organization having the protective distinction; and finally the convention voted to send no delegate to St. Louis. However, brethren, be not disconcerted, for this is not a case in which the tail is to wag the dog.

Prof. Saunders ("Bug" department of the University) spoke on the value of the University short course in beekeeping. Mr. France, Jr., described some of the work that had been attempted during the two seasons since the department was started. While only a start has been made, and there is a lack of means, we can see that in the future such a department can do very valuable work, such as can not be carried out by the individual beekeeper.

On the evening of the first day the members took a street car and went over to the University Agricultural Department and listened to a lecture on State inspection by N. E. France, State Inspector. This was appreciated, as was also the exhibition of

materials that the department of beekeeping has gathered in one of the rooms.

One part of the program was the introduction of short talks on some new thing that each member had discovered during the past season. I will not relate any of these, because none of them proved to be new to any one except the one who gave them. Introduction of queens by the smoke method was described and discussed. It was approved by those who had tried it.

The election of officers resulted as follows: President, N. E. France; Vice-president, Frank Wileox; Secretary, Gus. Dittmer; Treasurer, Harry Lathrop.

The writer hopes that the National convention will be a hummer, and that the Wisconsin men will come up to their annual meeting next year feeling fine, and get into line like good little boys.

Bridgeport, Wis., Feb. 9.

MAKING INCREASE BY TAKING A FEW COMBS OF BEES FROM EACH OF THE STRONG COLONIES, AND AT THE SAME TIME PREVENT SWARMING

BY W. C. MURDIN

About every eight or ten days we look through our colonies; and if we think they are getting a little too strong in bees and brood, and do not have enough room for the queens to lay, we take one or two combs of sealed brood and the bees that are on them and put them in an empty hive. We do the same with other hives that are too strong, and when we have enough combs to fill the empty hive we give them a comb of honey and also a comb of eggs, putting this latter in the center of the hive where it will keep warm. This comb of eggs will provide young larvæ with which the bees can start queen-cells if there is no young queen to give them. In a few days' time we thus have a good strong colony.

Some will wonder whether these bees, being mixed up from so many hives, will not fight and kill each other. We made up some twenty colonies last season in this way, and we have had no trouble along this line. I like to make up these artificial colonies on a good hot day if I can, for then most of the old bees are out of the hive in the field, and there are not so many on the combs to hinder me in finding the queen. I always make sure that I do not get the queen on one of the frames of brood that I take out, of course. Most of the bees taken away are young bees, and they mix with bees from other hives easily, and also stay in the new hive without trouble, for, so far as *they* are concerned, one hive is just about as good as another. However, when the new hive is about full of bees, if I see any of them that look as though they were going to fight each other I give a few puffs of smoke, and they soon quiet down.

Some will say that it takes too long to wait until the bees can start queen-cells of

their own, so, if desired, one can provide young queens, either of his own raising or some bought from a breeder, and give one to each new colony started just as though requeening.

If one has all the colonies he wishes, and does not care to increase his apiary too much, it is well not to give the bees a laying queen, but let them start queen-cells of their own. It will be some time before there is any brood from the young queen. Consequently it will be quite a while before there will be more new bees in the colony.

In about ten days after going through the old colonies the first time, go through them again and see how strong they are. If any of them show signs of starting queen-cells, showing that there is danger that they will swarm, take out a comb or two of brood and shake the bees all off back into the old hive; then put these combs of brood in the new hives that were started some days before, at the same time taking out of the new hive some of the combs that had brood in them when the colony was first started. By this time these should be empty; and if these empty combs are put back in the old colony the old queen will have more room to lay in. In this way the old queen can keep both colonies going until the new colony has a laying queen of its own. Then, too, giving the old queen plenty of room to lay in helps a good deal toward preventing swarming.

By the old way of making increase it often makes both the new and the old colony weak for a long time to come; while by the plan that I have described, of taking a comb or two of bees and brood at a time, the old colony is left in good condition for work at any time when the honey-flow comes. One can give the new colony enough



Delegates in attendance at the meeting of the National Beekeepers' Association, St. Louis, Mo., Feb. 17, 18, 19, 1914.

combs of bees and brood right along to make it just as strong as any colony in the yard. We have started new colonies this way quite early in the season, even when the weather was fairly cold. But when the nights are cold we cover the hives up until they are well protected, and we have never lost a comb of brood from chilling. We have some quick changes, too, here in Man-

itoba, in the spring, and some very cold windy days that are hard on the bees.

Last season none of our old colonies wanted to swarm, in spite of the very hot weather that we had. We like to keep all colonies good and strong right along, for the hives that contain lots of bees are the ones from which we get most of the honey.

Gladstone, Man., Can.

BEEKEEPING BY A FARMER'S WIFE AMONG THE MOUNTAINS OF NORTH CAROLINA

BY MRS. J. T. REEVES

I have thought that our experience with bees might interest the readers of GLEANINGS, especially the women, as I am the "beeman" at our place. My husband is a great lover of honey, and wanted to get some bees. We tried to buy some, but failed to find any for sale, as almost every one wanted more bees than he had. Then, too, some think it is bad luck to sell bees. Finally, however, when a neighbor offered us some black bees in box hives on shares we took two stands and kept them two years. Both colonies swarmed. We lost one of the swarms, and the parent colony from which the other one had issued we lost because the bees robbed it out before it grew strong enough.

Soon after this, one of my husband's friends from the other side of the mountain

said his mother had five colonies that she would sell for three dollars apiece. I thought we should not get so many at the start, as I did not expect any thing except enough honey for the table. However, my husband brought them across the mountain late in the fall, and these bees have been a constant source of surprise and delight ever since. We have made many mistakes, but I think we have profited by them—at least, enough not to make the same mistakes again.

The first season (1912) was a fine one for bees. We did not put on supers until after swarming time, and what a time we did have! We ran out of movable-comb hives and had to use all kinds of boxes. The first colony swarmed four times, and in all we had fourteen swarms. Some of these we doubled, and some we returned to the old

hives so that in all we wintered just fourteen colonies. As I think of it now it seems a wonder that we got any honey at all; but the bees did most of their swarming during locust bloom, and we secured more honey than our family of seven could use. We sold some and divided with relatives and friends. This locust honey was the wonder of every one who saw it, as, indeed, all of our honey is to the people here who keep bees on the "robbing" plan. The locust honey is water-white, and has a very fine flavor. The flow from locust is a little uncertain on account of the danger of bad weather or frost, as in the case of the year 1913.

In the fall of 1912 we had to feed considerably in order to winter the bees; but we did not feed enough. The following spring was so cold that the bees nearly starved, and only six colonies gave us surplus honey during 1913. It was so cold all the spring that we did not get any locust or apple-bloom honey. On the contrary they nearly starved until the last of June when we secured two supers of fine honey from each of the best colonies. Later we were surprised to get a super of buckwheat honey from each one, but we do not like buckwheat honey.

We had no swarming during 1913. I gave the bees plenty of room; and whenever they began to hang out on the front of the hives I propped up the brood-chamber on four blocks. I am anxious to see whether this will keep them from swarming during a good year, as I want to start an outyard

somewhere along the mountain. We live at the foot of the Blue, on the north side. On the south side of the mountain they have an entirely different climate with sourwood, honey-locust, and many other plants that do not grow on this side. I think our bees go to the south side for sourwood honey. Our side of the mountain is colder and higher, but, nevertheless, a good country for clover.

The honey in 1913 came too late for the beekeepers who depend merely on robbing the colonies in the fall, and we were the only ones who had any honey to sell. It was hard work dividing it, for the people were so anxious to buy. In fact, we had so much honey that the neighbors thought we fed our bees, and one man tried to feed his to get them to make surplus also; but he gave it up when the bees from the surrounding country nearly took possession of his place.

Our bees have paid for themselves several times over, and they certainly furnish plenty of entertainment. They add much interest to the life of the farmer's wife, to say nothing of the money. I have chickens, turkeys, guineas, pigs, and calves to attend to, but I prefer my bees to all of them. My friends laugh and tell me I am bee-crazy; but they show some interest at once when I tell them how much money I have made from them. Beekeeping is just as much a woman's work as taking care of chickens, and I never get too tired to hive a swarm or take off a nice super of honey.

Laurel Springs, N. C.

VALUE OF BEES FOR TRANSFERRING POLLEN TO DIFFERENT VARIETIES OF APPLES

BY J. C. M. JOHNSTON

I have received so many queries from readers of my article in *GLEANNINGS*, May 1, p. 316, on spraying apples and pollinating the blossoms by means of bees, that I think it well to explain the matter more fully.

When apples are in bloom, bees fly from flower to flower and from tree to tree to collect the honey. Some of the pollen of the blossom clings to the bees; some of it is brushed on the next flower; some is carried to the hive for bee-bread. But the part that is transferred from flower to flower pollinizes the ovaries of the blossom, so that they begin to grow and keep on growing until they develop into an apple. Bees are thus of vast importance to the apple-grower, especially since the pollen does so much more good if it is carried to another flower

instead of falling on the organs of the flower where it grew. It does more good if it is carried to a different tree instead of to a blossom on its own tree. Finally, it is still more valuable if the bee carries it to a different variety of tree from that on which it grew—say from a Northern Spy to a Baldwin or *vice versa*. For this reason modern orchards are often planted with the varieties alternating—first a row of Baldwins, then a row of Northern Spies, then a row of Greenings, and so on until the whole orchard is planted. The result is that the bees and the wind can readily carry the pollen from Greening to Spy, from Spy to Baldwin, so that each apple is pollinized by pollen from a different tree and from a different variety. Then the apples are big

ger, richer, redder, more resistant to late frosts, and better keepers. Hence the orchardist wishes to keep as many bees as he can to pollenize his blossoms.

Now, how shall we regulate the spraying for codling worms so as not to kill the bees when they come to the bloom for honey, and, incidentally, to pollenize our young apples? Easily enough if we just wait until the right time for spraying. After the blossom-leaves (or petals, as they are named) fall, the nectar dries up, the stamens and other organs in the flower shrivel, the calyx opens wide, and the young apple stands erect on the stem. The bees now cease to visit the trees, and the orchard is in just the right condition to be sprayed for codling moth.

Take your gasoline-sprayer; set the pressure gauge at 200 pounds, and with a Bordeaux nozzle (not a Vermorel nozzle) shoot the spray downward into the erect end of every young apple on the tree. To

do this you will have to stand on a tower on the spray-rig, or else have a gooseneck on the end of your 12 or 14 foot bamboo spray-pole, to direct the spray downward into the upright young apples. The apples are in the right condition, wide open, and upright, for about seven days after the petals fall. At the end of the seven days the blossoms begin to close up and the apples to turn downward on the stem. The poison is now within the calyx (cup), and when the worm hatches on the leaf beside the apple, and crawls into the calyx for its first meal it gets a tiny atom of the poison, dies, and goes no further. This whole range of activities — beekeeping, pollenizing, spraying, closing the blossoms, developing the apples—seems so nicely adjusted by nature in order to furnish the greatest encouragement for the beekeeping orchardist in his interesting but arduous work.

New Wilmington, Pa.

HARVESTING SWEET-CLOVER SEED

BY F. W. LESSER

Wesley Foster asks for "a real good method of gathering sweet-clover seed," p. 8, Jan. 1. I have saved considerable seed; and while I do not know that my methods are real good, I do know that we have lost but little seed.

In 1912 we cut a patch of a couple of acres, and, it being near home, we used a grain-binder to cut it with. We cut it while the dew was on, and very little of the seed shelled off. We then put the bundles in shocks, the same as grain, and let stand till the stalks were thoroughly dried out, when we made a stack of it to await the thrasher-men. We would have put it in the barn if we had had room.

In hauling we spread canvas or horse-blankets over the hayrack to catch what seed fell off. In 1913 we had four patches (about five acres in all) three miles from home, and, as it was inconvenient to take a binder that distance, we cut it with a mowing-machine. A man followed the machine with a fork, and laid it to one side in small forkfuls out of the way of the machine on the next round. It was allowed to lie in this manner about two weeks, or until the stalks were dried, and then hauled and stacked. It does not handle nearly as easily this way as it does when in bundles from the binder, and I would prefer cutting with a binder when possible.

Any thrashing-machine can thrash it, but they leave about thirty per cent of broken

stalks, etc., with it, which must be removed with a fanning-mill.

In cutting small patches with a scythe we simply let it lie in small forkfuls until cured. It may need to be turned in wet weather, but it takes a lot of water to hurt it. We have tried thrashing it with a flail, etc. That way is all right for a small quantity, but we never could get all the seed; a machine gets practically all of it.

It is difficult to determine just when to cut it to get the maximum amount of seed, as some seasons there will be seed in all stages from the blossom to the ripe seed at the same time; and if we wait for all to mature, that which ripened first may have dropped off. The fully developed green seed will ripen to a certain extent on the stalk after being cut, but I do not believe the seed is as good as that which ripens before cutting.

It is a great crop, and I expect to plant nine acres the coming spring.

East Syracuse, N. Y.

A Narrow Range of Vision

Sylvia, supple and slender, and Aunt Belle, bulky and benign, had returned from a shopping tour. Each had been trying to buy a ready-made suit.

When they returned home, Sylvia was asked what success each had in their efforts to be fitted. "Well," said Sylvia, "I got along pretty well, but Aunt Belle is getting so fat that about all she can get, ready-made, is an umbrella."—*The Youth's Companion*.

Heads of Grain from Different Fields

\$75 Worth of Honey the First Year

I started in the spring with 12 colonies. I got nine swarms, some my own, and some from my neighbors. I also bought nine colonies (in old hives), making a total of 30 colonies. I lost two by old queens dying, leaving 28 to winter.



Fred E. Osborne with a couple of his combs of bees.

Secured \$44.12 for the comb honey sold, and \$31.72 for the extracted. This is a fair average, considering some of the difficulties under which I labored.

Norwalk, Ohio.

FRED E. OSBORNE.

Wires Held by Staples instead of Being Threaded Through Holes in the End-bar

During the past season I have been using $\frac{1}{4}$ -inch double-pointed tacks to fasten the wires to the frames instead of threading them through the holes in the end-bars, and find it easier, requiring no special apparatus to hold, measure, or tighten the wire. The staples are also better since the wires can be drawn tighter, and they do not become slack after the foundation is put in the frames, as they always do with the usual method on account of the wires sinking into the wood.

My usual method is as follows: In a small board I drive a ten-penny nail deep enough to be firm, set my spool on this, and drive another nail far enough from the spool to allow the spool to turn freely and prevent the wire from unwinding when it is cut. Then I take a case of hives, turn it down so the hive-

bodies rest on the end, and seat myself with one end of this workbench opposite my left hand; place my spool near the center, and a pile of tacks at my right, and with a good tack-hammer I am ready to begin work.

Taking a frame in my left hand, and resting the end-bar flat on the bench, I start my first tack, tie the wire in it, reverse the frame, draw enough wire from the spool to reach the other end of the frame, place second and third tacks over the wire, driving them about half way in; reverse the frame, and continue till the last tack is reached, when the wire is cut and tied. All tacks should be set parallel with the frames. Then placing the end-bar flat on the bench, all tacks are driven in till the wire is tight enough.

The only disadvantage I find is that it requires care to keep all wires in the center of the frame; and until one becomes used to the method he will likely get a few sheets of foundation slightly out of line. Occasionally driving in a tack to tighten the wire will pull the tack at the other end, but with a little practice this will seldom happen.

The advantages are that the wire is taken directly from the spool, and there is no chance for it to snarl or kink, and there are no loose ends to bother at any time. Personally I find it much easier to place the tacks over the wire than to thread the wire through the holes. The great advantage of this method is that the wires never become slack; and if the foundation is not drawn out at once after being put in, the injury is far less from buckling and warping.

BULK COMB HONEY HELPS THE SALE OF EXTRACTED.

Perhaps most beekeepers would prefer producing extracted honey to any form of comb honey, but realize that the extracted not only brings a much lower price but is much harder to sell at any price. This season I have been selling on the local market bulk comb and extracted honey put up in the same style of glass packages; and while at first the bulk comb sold much more rapidly than extracted, of late the demand for extracted has been increasing in proportion, a greater number taking advantage of the difference in price. The bulk comb attracts the attention of the customers, and the price of the extracted attracts their pocketbooks.

The uniform packages, and the fact that they are put up by the same party, help to avoid suspicion that the extracted is adulterated. I believe that I have sold at least twice as much extracted honey as I could have sold had I been selling it alone, besides the larger amount of bulk comb I have sold with the same effort.

What we need for bulk comb is a wide-mouth glass jar sold at the price of the Mason. The Premium is very good, but is hard to get, and the price is too high and breakage in transit too heavy.

Oklahoma City, Okla.

W. H. HOBSON.

[If one does not like the usual plan of threading wires through holes in the end-bars we should think a more rapid method would be the bent-wire-nail plan which has been suggested several times. The nails are driven in part way, bent over, forming hooks, and the wire strung back and forth.—Ed.]

Heat in the Hive as a Cause for Swarming

After reading the article in your September 1st issue, p. 593, about Mr. Vernon Burt's scheme to prevent swarming, I thought that possibly the experience of an amateur with bees might be of interest; and when I say "an amateur," and inform you that I am the owner of one single colony of bees you will agree that my experience along the lines of beekeeping will not add greatly to the knowledge of your readers; but that idea of heat in the hive being

one of the prime causes of swarming tallied so well with my experience of 1912 that I feel emboldened to write.

This is the third year of my actual experience with owning and caring for bees. I started with a single hive which, on the advice of the party from whom I purchased, I located in the second story of my barn, a narrow slit cut through the siding allowing the entrance or landing board to project through this slit outdoors, while the hive was on the floor of the second story close up to the inside of the siding. It was in the southwest corner of the building, and on a hot day this corner was a little hotter spot than any I ever hope to inhabit in the future. During the day my business calls me to the city (I am a suburbanite on four acres). During the season of 1911 I realized too late that my bees had swarmed, and that I had donated the swarm to a neighbor less than half a mile away. That fall I realized about 25 pounds of honey from my bees. The next year, 1912, when the hot days came I noticed that my bees would cluster around the entrance and hang in a bunch to the entrance-board until long after dark. I figured it out that the inside of the hive must be so hot that the poor bees simply followed the plan of poor human beings who live in the crowded and hot tenements of our cities—whenever possible, to sleep (or at least *stay*) out on the roofs during the nights of the heated term. And this is what I did to help out the situation.

It was a very hot Sunday afternoon. The bees were flying in numbers around the entrance and hanging to the board in bunches. I took a big pail of cold water up into the barn, and, soaking some heavy burlap bags and strips of old carpet in this cold water, I laid the ends over the top of the hive, allowing the wet bags to hang down around the sides, and sprinkled what remained in the pail over the whole thing so that it was dripping. Then I went outside, and sat in the shade to watch results. In thirty minutes the bunches of bees had dwindled fully a half, and inside of an hour had disappeared. That fall I got nearly 90 pounds from my single colony, and I did not hear any of my neighbors say that Barlow had donated another swarm of bees to anybody.

Grand Rapids, Mich.

J. B. BARLOW.

Getting a Colony from a Tree without Cutting it Down

Some time ago I captured a colony of bees from a tree, following the plan given in the A B C and X Y Z of Bee Culture, introducing a queen to the bees that went into my hive. Five weeks I kept the bee-escape on the hole in the tree; then I smoked the tree well with sulphur. As the season was getting late and flowers scarce I left the tree open for the bees (now in the hive) to rob out.

In three weeks I went out, closed the hive, and brought it to town in a boy's express wagon, walking the five miles. I have a fine colony of well-marked Italian bees, and they have eight brood-frames full of honey in their hive.

I now have the two colonies up in the attic, eastern exposure, where they get the morning sun, and by afternoon the whole roof is warm. They have a direct outlet to the outside, so there are no bees in the room. There is a porch roof the whole width of the house for them to alight on, and then they can walk right into the hive.

Cleveland, Ohio.

A. LYNDON HITCHCOCK.

Bees Transferred from the Wall of a House

I had quite an experience in transferring two swarms of bees from the north side of a house in October. A part of one of the swarms I succeeded in getting in a hive where I had transferred several empty combs and some brood. Some of the bees

stayed on the side of the house, and I found the queen in this small cluster of bees a few days later. She had been away from the bees in the hive so long that I thought it best to smoke the bees and queen well. I then let her run into the hive, and the bees received her all right. I am not sure whether the queen went into the hive which I placed on a scaffold, for the bees were next to the roof in the second swarm. A small cluster of bees stayed under the hive, and next to the house several days, and then flew away. I am not sure that the queen is with the bees in the hive or with the few bees which flew away.

There was enough honey, which was somewhat dirty, being taken from between the siding and the plastering of the house, nine squirrel-nests being somewhat mixed in the honey. I placed this honey in a super above the bees. I suppose there was 20 lbs. on each hive. I laid the broken chunks of honey so the bees could come up into the super and get plenty of empty comb transferred to frames below.

J. W. STINE, Iowa Deputy Bee Inspector.
Salem, Iowa.

Bees in a Stump in a Cornfield

While gathering corn to-day, Nov. 8, in passing by an old stump my brother happened to put his hand on top of it when the heat, about the size of a saucer, fell in. Upon looking into the cavity he found a colony of bees with stores. The stump had rotted out from the ground up nearly to the top; but the top had not given way. The bees entered the top of the stump through a small crevice. Here is the novelty of the thing: I got a saw, cut the stump off just above the ground, or about 18 inches from the top of the stump; put it on a cloth, part of it on the wagon, brought it home, and put it near my other bees. The old stump is very much decayed; but I intend to keep it as a curiosity. I have found bees in trees and logs, but these are the first I have found in a stump in a field of corn.

Kenton, Tenn.

FRED TATE

The Advantage of Clipped Queens Late in the Spring

By clipping the queens late in the spring when it is safe for the bees to rear another, in case any thing goes wrong, which not infrequently happens, and by giving plenty of room, I find that not more than one-third of the hives will swarm, even when running for comb honey.

The swarms are given another hive-body with foundation, and the old hive is set to one side for two or three hours, or until next day, if desired, or long enough to allow all of the workers to fly from it and return to the new swarm. It is then carefully set upon a weaker hive for extracting purposes, with an excluder between, and no attention paid to cells. Of course there are a lot of bees in this old body that it seems should be shaken with the swarm; but those left are mostly heavy nurse bees; and now the question is, would they train down and become field bees, or remain nurse bees to the end? In the latter case they may as well remain with the old hive-body, where there is something for them to do.

Cincinnati, Ohio.

JOHN E. ROEBLING.

Pollen and Honey from Grape Bloom

You say editorially, Feb. 1, that there is some difference of opinion as to whether bees pollinize the blossoms of grapevines. I wish that you could be here in May and June, and take a stroll through the woods and hear the hum of the bees and smell the delicious perfume. It would make you feel good. Our wild grapes bloom one or two weeks later than our tame, and the bloom furnishes a large amount of pollen and honey.

Concord, N. C., Feb. 9.

W. D. YORK.

An Open Letter from the Secretary-Treasurer of the National Beekeepers' Association

Dear Bro. Beekeepers:—I wish to call your attention to the fact that the beekeeping industry is coming more and more into the hands of specialists who give it all (or nearly so) of their time and energy. These specialists are demanding, and with good reason, that the National Association give the practical features of the business greater attention, and leave the theoretical and educational work to the bee-journals and the special advocates in which we are so fortunate in having so many able representatives, employed and liberally paid by the different States and the general Government.

The time has now fully come for a practical, hustling, up-to-date business campaign, backed by energy and means, going in with the determination to stimulate the consumption, increase the demand, and stiffen the prices of honey, and co-operate in our purchases. This is my private view of the matter, and it is the attitude I shall assume as the Secretary of the National Association.

Other associated industries, similar to ours, are getting splendid results along these lines by combined and persistent efforts, stiffening prices and standardizing their products, and we can do the same. We may not be able to command as much money to work out our plans as some of these can do; but we shall have a big advantage in having 50,000 or more enthusiastic "bee cranks" boosting together all over the country, giving us an advantage to start with that is worth more than any amount of mere money.

We must have money, of course, and the more the better, to pay the printer, postage, and all those things, and we shall have to "dig" for it, and you will all be called on in due time to give your share.

There is one little word, none too elegant, perhaps, but wonderfully expressive, that applies to the situation to a nicety. If each and every one of us would *boost* honey, individually and collectively, in season and out, and all the time, honey prices would soar. "Boost" it locally, and then lend a hand to the larger work that is necessary also.

It will be a pleasure for your Secretary to exchange views with you, and assist in any possible way to help matters along—act as a sort of clearing-house as it were, in the exchange of "boosting ideas."

If you do not already belong to the Association, get in as quickly as you can. I receive letters every day asking, "What are the objects and benefits of the Association?" I am going to answer that question right here, and save lots of postage. The object of the Association, in one word, is to "boost" honey and promote the business. The benefits are, a stimulated consumption and better demand for our products, and better buying facilities for our supplies. Are you with us in this?

Yours for a "boosting" campaign,
Redkey, Ind. GEORGE W. WILLIAMS.

Starting with Bees in an Attic

What is the best time in the year to start with bees? I have an exceptionally good attic. Would it be as well to keep them there the year round? It would certainly be warmer for them in winter. Would it be too hot in summer?

FRANK F. KINNEY.
Colonial Ridge, Port Chester, N. Y.

[The spring is, perhaps, the best time to start with bees, taking every thing into consideration. It rarely pays for the beginner to start in the fall, for he may lose his colonies the first winter.

There are a good many possibilities connected with hives, and the bees are well protected in the winter. However, it is a little more inconvenient with beekeeping in an attic. You need less expen- to work with bees inside a closed room. You can

not see as well unless there are large windows that you can take out entirely; the bees fly out about the room when you are looking over the combs, for instance, and are thereby lost. If the windows are entirely open they finally find their way back into the hives. See reply to M. D. Fraser, p. 196, Mar. 1.—Ed.]

Nutritment for Bees in Sawdust

In your reply to Mr. Bohon, page 154, Feb. 15, you say that you do not know whether the bees are deceived by the sawdust, mistaking it for pollen. For my part I can not believe that the bees are deceived, for I have seen them going to a sawdust pile at a saw-mill close by, for the last three springs. They go by the thousands, not only for one day but for weeks at a time. I have actually caught bees on the dust pile and examined the pellets on their legs. It is of a dark-brown color; and when I tasted it, it had a neatly flavor and was just a little sweet. My bees make a practice of carrying this fine sawdust until the maple trees are about through yielding pollen, or until pollen is very plentiful. They do not begin on the sawdust, however, until their store of pollen in the combs is gone.

We know that moth larvæ can live on the wood of hives, frames, sections, etc., so it does not look unreasonable to me to suppose that bee larvæ may also use the miniature grains of sawdust in like manner.

Cushman, Ark.

GEO. F. GUNTHER.

[While not wishing to take the position that the bees are really deceived, and that there is nothing nutritious in the sawdust, we should like to say, nevertheless, that it is a fact that bees carry honey from their hives in their honey-sacs to use in moistening the pollen for the purpose of packing it in their pollen-baskets. The fact that this dust on their legs tasted sweet, therefore, would not necessarily indicate that the sawdust is nutritious to the young bees.

Different animals subsist on different kinds of food. This is true also of different insects and different larvæ, so that the fact that moth larvæ burrow through wood would not prove that bee larvæ can get nutritment from sawdust. However, we admit that it is hardly likely the bees would work so long and so steadily on the sawdust if they did not find in it a nutritious substance to use instead of natural pollen.—Ed.]

Pasting the Edge of the Label Only

There has lately been some difficulty in pasting small labels on tin. I have had fair success with a label about four by five inches that I use on any size of can. I use an ordinary mucilage-brush, and spread the mucilage, or paste, around the edges of the label only, leaving the center dry. Then when the paste dries, the label does not shrink off. I did not use many labels at a time last season. I tried a small bottle of mucilage first. But as that dries up rapidly in Arizona I bought a tube of library paste at a drugstore.

One of your contributors suggested the use of honey to mix with paste. I tried it with both the mucilage and the paste, and found it an improvement. I suppose it prevented the paper from drying and shrinking too quickly.

Hayden, Arizona.

W. H. McCORMICK.

Ventilating by Raising the Brood-nest and also the Cover from the Super

I have read with interest Mr. Vernon Burt's experience, p. 593, Sept. 1, in raising the brood-nest from the bottom-board to give ventilation and overcome swarming, as I have practiced the same method for several years. I have never been able to get as

low a percentage of swarms, but do know that ventilating in this way goes a long way toward overcoming that difficulty. I go him one better by raising one end of the lid on the supers about $\frac{1}{2}$ inch when the weather is very warm. Contrary to the usual belief, I have never had the slightest trouble in getting the bees to fill out the end or corner sections when the lid was up, and many an evening and morning I have found the bees crowded out and hanging down the side of the supers.

I had three colonies this summer having queens that were so vigorous that they went up into the supers and laid in the sections. The only way I could stop it was to raise the lower super $\frac{1}{2}$ inch at one end. They were ten-frame hives too.

I have never been troubled by the bees building spur comb down to the bottom-board when using the blocks—not even with a hive where I put bricks under the brood-nest to give enough ventilation.

Philipsburg, Pa., Sept. 13. WILLIS N. ZEITLER.

An Easy Way to Hive a Swarm Clustered on a Fence

In the Nov. 15th issue, page 790, the editor says, “. . . but in many cases they seemed to take a particular delight in settling on one of the posts of the wire fence where it was a slow and tedious operation to get them.” I would rather remove two swarms from posts than one from a bush. At the beginning of the swarming season, take some old pieces of rope and wind around the posts about three feet from the ground. Pour some melted beeswax on this rope. (Old comb is better, but may spread disease). I use a light skeleton stand about 2 $\frac{1}{2}$ feet high to set a hive on; and when a swarm settles on a post I place an empty hive on the stand and carry it to the post. To be successful the bottom-board must come in contact with the post. Scrape a handful of bees on to the bottom-board, and the rest will soon follow. Or, give the post a sharp blow with an ax. A man may then return to his work, and in nine cases out of ten the swarm will enter the hive in a few minutes. It requires only two or three minutes to place the hive, and it saves time and stings.

If I could have my choice in hiving swarms I would surely take the fence-post.

Pinckney, Mich., Feb. 6. N. P. MORTENSON.

To Make Increase and Prevent Swarming

The following I find a handy way to make increase, and also to prevent swarming, and get two strong colonies in place of one.

In the swarming season, in the home or outyards I go to colonies that are strong, find the queen and place her and all of the combs with brood and eggs, but one, in an extra super.

Then I take the one frame with brood and eggs, and place it in the old brood-nest; fill it with combs, put in a queen-excluder, set the super with the queen and brood on top. Put in a honey-board; also some warm covering; cover, and let it alone for 12 to 14 days. Then I look for queen-cells; cut them out, and put them into nursery cages, all but two, and then wait until I think they ought to be hatched out. If the two I left are hatched, or show signs of one being hatched and the other destroyed, I again put back the upper super and let it alone for about two weeks.

Then I look for the old queen in the upper super; and if I find her all right I look for eggs and brood in the old brood-nest; and if I find them I set the old queen on to a new stand, and have two good colonies, and always get some surplus and no swarming.

If I do not care for increase I take a frame from my best queen and put it into the brood-nest, and then proceed as described, with the exception of

destroying the old queen and letting the super stay on the old brood-nest.

Vernon, Ct.

J. G. FRENCH.

[Your plan is similar to the Alexander plan for making increase in that you conserve the heat of both lots of bees, and thus save all the brood. However, Mr. Alexander gets the old queen in the new hive below on the old stand.—Ed.]

1913 Freeze Killed Half the Sage

The indications are good for sage honey but for the freeze of last winter, leaving only half a stand of sage. What there is will probably be good.

Redlands, Cal., Feb. 1.

E. D. BULLOCK.

Feeding Candy in the Ozarks

We are having a warm winter after a very dry summer. Bees in this vicinity went into winter light in stores. I am wintering out of doors in eight-frame dovetailed hives, situated on southern slope, feeding hard candy. Bees are doing well. The prospect for clover is very poor at present.

Morrisville, Mo., Feb. 18.

H. CLAY DAY.

Cellar Breeding Not Desired

You call for reports in regard to supplying the bees with artificial pollen so they will breed up in the cellar. The scheme may be feasible, but I should not want to see my bees breed up to such an extent that they get the swarming fever while in their winter repositories.

Mancelona, Mich., Feb. 23.

S. D. CHAPMAN.

Aster Honey for Winter Stores all Right so Far

I reported in the fall that my bees had nothing but aster honey to winter on this winter. They had a fine flight yesterday, the 22d, and I never saw a healthier lot of bees. There were but very few dead ones. We have another snowfall this morning—very cold.

R. THOMPSON.

Underwood, Ind., Feb. 23.

Cottonseed Meal a Good Substitute for Pollen

Replying to your editorial, page 121, Feb. 15, I have found cottonseed meal a fine substitute for pollen. If the weather is inclement I put it in an empty comb which I insert in the hive at one side of the brood-nest. If the bees can fly, I put it outside in some place where rain will not fall on it. I put it in a box and place a hive-cover over it, so arranged that the bees can have free access to it.

Mathis, Texas, Feb. 27.

H. D. MURRY.

Sweet Clover Easily Grown in Florida

We have continued planting sweet-clover seed (a few rows in our garden) and it never fails to grow. This is a small effort, yet under some conditions larger quantities could be grown. It grows well here upon saw-palmetto or flat-woods land. We have grown it from seed. We transplanted it, and at this writing it can be found growing spontaneously.

Taft, Fla., Jan. 30.

T. A. WORLEY

Variations in the Same Kind of Honey

I have kept bees in two places. At the first the honey from persimmons was very light in color, with a peculiar flavor which was noticeable as soon as persimmons began to bloom. At the second location, not more than seven or eight miles distant in a bee-line, but in a very different soil, there is none of this honey, although the bees work freely on persimmon.

Arcola, N. C.

R. B. HUNTER.

Our Homes

A. I. Root

And in the morning, rising up a great while before day, he went out, and departed into a solitary place, and there prayed.—MARK 1:35.

But thou, when thou prayest, enter into thy closet, and when thou hast shut thy door pray to thy Father which seeth in secret; and thy Father which seeth in secret shall reward thee openly.—MATT. 6:6.

There are a good many strange people in this world. There are good people and bad people; and there are others, like you and me, who are good part of the time and bad part of the time; and may God grant, as we grow in years, that the bad times may grow less and less, and the good times grow more and more frequent. Well, there are *selfish* people in this world, and, thank God, there are unselfish people. Why, it is a positive fact that there are people who send out gospel literature day after day and year after year, and pay the postage and printing entirely out of their own pocket unless some good man or woman sends a postage stamp or may be a dollar bill. I have known of quite a few such.* In fact, there have been one or two among our beekeepers who have spent a large amount of money, not to send out *political* literature, but to disseminate the pure gospel of Christ Jesus, and that, too, without money and without price. I think one of them is dead and gone.† But there is one who is still alive and doing business, and I rather think he is doing a lot of business too. Every little while he sends me some tracts. I glance over them hastily, and sometimes hand them to those who I think will value them.

Just a few days ago, among these leaflets was one entitled "In the Desert with God," which attracted my attention. This tract also contained a poem headed "Alone with God." I tried to find it afterward, but it had slipped away. But the thought kept coming into my mind and repeating itself—

* If I mistake not, our departed friend and beekeeper Oliver Foster was one of these quiet home missionaries. If you will refer to page 373, June 1, you will see that he was also one of the most successful beekeepers, years ago, when he and myself were in pretty close touch, not only with the bees, but when we were *both* interested in the furthering of God's kingdom.

† Among other good friends who are doing so much to further the cause of righteousness I must mention also the Gospel Tract Mission, of Woodburn, Oregon. They send out an elegant calendar with choice selections that face the reader for at least a month. This is a very practical way of combining the practical and spiritual. Besides this they send out large bunches of blotting-pads with scripture texts that remind us almost unconsciously of better things. Drop them a card.

yes, in the night I would say, "Alone with God," and it recalls to me that, during my busy business life, times would come quite often when I felt as if I *must* be just a little while alone with God. Perplexities, misunderstandings, and disappointments must come in a great and growing business, and I can remember vividly that, when my feeble efforts seemed to fail, when some of the help got cross or "cranky," as we sometimes term it, at such times I longed to get entirely away and be alone with God. I sometimes thought of having a private office where I could get off by myself and turn the key. But somehow that did not seem to be Christianlike. I do not know that I have ever yet refused to see or talk with any one. I have often, however, asked the friends after a time to excuse me; but I do not think I ever locked myself in a room, even when I wanted to pray. After the busy throng had all gone home there were particular places or corners where I used to kneel down and feel that I *was* alone with God. I could tell him all my troubles, and a lot of deliverances—I think I may safely say *miraculous* deliverances—came after such times when I had been alone with God.

I do not know how many of you there are who sometimes get stirred up so that it seems almost impossible to take your thoughts away from the thing that troubles you, and think of something else. I sometimes, after a rebellious conflict in my soul, feel like an unmanageable horse. I remember one such time when I was almost boiling over with resentment, and I could *not* get over it. I left my work and plunged into a field of growing corn. I went away out into the middle of the field and knelt down alone with God. I said in substance, "Create in me a clean heart, O God, and renew a right spirit within me." I then went back to my work, as the good book expresses it, "clothed, and in my right mind." I was then enabled, by the grace of God, to look pleasantly and kindly on contrary humanity. Now, such a spirit is catching. No wonder my help *forgot* to be contrary, and seemed to be *transformed*, like myself. This being alone with God had banished Satan, and Christ Jesus was lord and ruler once more.

Well, this little tract reminds me that I have not been alone with God of late as much as I used to be. Let me stop right here. It is an excellent thing to be able to lead in prayer-meeting or other places when

you are called on. We should always be ready to "say grace," or give thanks, whenever we are called on to do so, *wherever* we happen to be. This praying in public is good and commendable; but I venture to say that every one of us, when so called on, considers what effect his words will have on his *hearers* as well as on the great Father above. In other words, I think most of us are tempted to pray to the people as well as to the great Father who hears and answers prayer. Now, here is the point:

If you get off by yourself (away off in a cornfield), there is no listener *but* God. The conference is between you and your Maker. A man would be silly indeed if he thought he could deceive the all-seeing Eye. If he is never honest and sincere anywhere else he surely must be (unless he is a fool) honest when he is alone with God.

I told you I had *lost* that poem, so I decided to write for another. Inasmuch as our good friend had sent me *one*, and paid the postage, I decided I would send him a stamp. Then something said, "*Two stamps*," but the *Holy Spirit* (I think it was the Holy Spirit) said I should send him a dollar to help pay the postage on some tracts to other people. The tract came right along, and a letter with it; but before I give you the letter I am going to give you the first paragraph of that tract that has taken such a hold of me, and the four stanzas of the poem.

IN THE DESERT WITH GOD.

In these days of hurry and bustle we find ourselves face to face with a terrible danger; and it is this—no time to be alone with God. The world in these last days is running fast; we live in what is called "the age of progress," and "you know we must keep pace with the times." So the world says. But this spirit of the world has not confined itself to the world. It is, alas! to be found among the saints of God. And what is the result? The result is—no time to be alone with God; and this is immediately followed by no inclination to be alone with God. And what next? Surely the question does not need an answer. Can there be any condition more deplorable than the condition of a child of God who has no inclination to be alone with his Father?

ALONE WITH GOD.

Alone with him, make him thy confidant;
Tell him each wish thou fain would'st have him grant;
Oh! tell him every thing that's in thy heart,
Give him the key to every secret part.

Has thou one thing thou would'st not have him see,
Hidden from him who gave himself for thee?
Hide it no longer, let it all come out
Free in his presence *then* without a doubt.

Trust him with every thing thy heart holds dear;
Trust him with every thing of value here;
Believe him; he will keep it safe and sound;
He loves each lamb his tender grace has found.

Alone with him he loves to have thee be,
Whispering softly that he cares for thee;
Here in his presence dost thou love to dwell,
Learning of him what he delights to tell?

I hope, dear friends, you are sufficiently impressed with the above to want to send for it; and I will tell you where to send by giving you the following letter containing *another* precious poem:

My dear Brother Root:—Your letter of the 18th, with one of the Lord's dollars, came safely to hand, for which we thank you. We sent at once the tract "Alone with God," which you desired. We are glad to have you use any of our tracts in your Home talks as you have in the past, and which has brought many calls for the same. A word from you goes a good way in this.

I am quoting for you now some most precious verses for your spiritual meditation.

Not now, but hereafter.—JOHN 13:7.

Not now, but hereafter shall all things be known,
And all of God's wonderful workings be shown;
All mysteries will fade in the light of that land,
All doubts will be settled, and we understand
Why ill was permitted, why God's ways seem slow,
And the path was so rough that our feet had to go.

Not now, but hereafter all things will be plain,
The sweet and the bitter, the loss and the gain;
In the light of his presence we clearly will trace
What now seems so wrong was but infinite grace;
And how all things here were but working for good;
God's beautiful plan but not now understood.

Not now, but hereafter, when we are like him,
And the scales have been taken from eyes now so dim;

When we view all our journey and scan all our way,
With praise, adoration, and wonder we'll say,
"I see and I know, and I thank him for all,
My precious Redeemer at whose feet I fall."

Swengel, Pa., Oct. 21.

A. F. COWLES.

In regard to the last poem, had I received it in time it would have been a most fitting closing-up for my Home paper for Nov. 1; and I hope my old schoolmate Corwin may see it.

AN OUT-OF-DOORS RELIGION.

We clip the following from *Guide to Nature*:

Christianity is an out-of-doors religion. From the birth in the grotto at Bethlehem (where Joseph and Mary took refuge because there was no room for them in the inn) to the crowning death on the hill of Calvary outside the city wall, all of its important events took place out-of-doors. Except the discourse in the upper chamber at Jerusalem, all of its great words, from the sermon on the mount to the last commission to the disciples, were spoken in the open air. How shall we understand it unless we carry it under the free sky and interpret it in the companionship of nature?—HENRY VAN DYKE, in "Out-of-Doors in the Holy Land."

Not only is Christianity an outdoor religion, but it is an out-into-the-open religion, everywhere and every day in the year. The gospel of Jesus Christ has no secrets. It is all above board, and out in the sunlight. I was once invited to a seance where they had a slate-writing in a tent. They said I would have to stay until midnight to see the modern miracle. I replied, "Why,

my good friend, why not hang your slate right outside of the tent at noon, where the sun can shine on it?" They said it would not *work(?)* that way. Well, any thing that

will not work and stand the full light of day is a good thing to avoid. The great Master said, "In secret have I done nothing."

Poultry Department

MY "SETTING HEN" STORY, ETC.

In our issue for Jan. 1 I told you something about my flock of about 50 pullets, a cross between the Leghorn and Buttercups; and I have before mentioned that this cross gave us birds of all colors imaginable. Well, the *colors* are not all of it. There are two or three hens in the lot with feathers turned inside out—the curve being outward instead of inward, and, in fact, I don't need "leg-bands," for there are almost no two hens at all alike in the whole 50. And even this isn't all of the result of such a cross. Both Leghorns and Buttercups are non sitters; but when I got here, about Nov. 8, I found two hens that were just determined to sit. In order to get roosters big enough to sell in our market (they won't buy them *here* unless they are close to 3 lbs.), I decided to let both sit as soon as I could get eggs enough. How long did it take to get 15 eggs? *Just four days*; so one hen was set Nov. 12, and before we could spare 15 for the other it was Nov. 17. I tell you this to let you see how my egg yield started in November with pullets, some of them nearly a year old. The 30 eggs, when tested on the third day, were all fertile but one, and the two hens gave me 29 good strong chicks. At this date, Feb. 12, both have weaned their chicks—one 14 and the other 13. Just a word about this excellent fertility.

I have had a notion that the male serves only *the laying hens*—that is, where there are plenty of hens. We have two young roosters with the 50, and one four-year-old full-blood Buttercup, male. I have searched poultry journals and books, but have never seen the matter treated of; but you have all doubtless noticed that, as soon as a hen comes off the nest cackling, there is a rivalry among the males as to who will serve her first. Is this one reason for the cackling? If I am right, it is not at all strange that my eggs in November were almost all fertile. Later I gave one of the Rhode Island Red hens 20 eggs, and she hatched 19 chicks.

Let us now go back to the two sitting hens. Both of their ancestors were non-sitters; and when they did *occasionally* act like sitting, taking away the nest eggs usually cured them. Not so here. I have seen hens *determined* to sit before, but none like one of these. Another hen had been laying

in the nest, so I made a pencil-mark around each egg, and planned to remove all eggs that might be laid in with them. She bit and scratched my hands so badly I bought a cheap pair of cotton gloves; but when my hands were covered she flew in my face and made me look as if I (*A. I. Root*) had been in a *fight*, so I dropped her in a box right under the nest and put my foot over it until I could see if all her eggs were pencil-marked. This did all right for a few times, until, instead of going on the nest when released, she flew in my face again. To head her off, as soon as I removed my foot I slipped out of the nearby barn door and closed it after me. This worked all right for a few days; but she soon demonstrated that a determined young sitting hen is quicker on a run than her 74-year-old "boss." She would slip out of the door before I could get out and close it; and then *chased me half way to the house*.* Was there some *game* blood in the ancestry of the Buttercup or Leghorn that cropped out when I crossed the two? She made a most excellent mother. No cat or dog even *looked* toward her chicks the second time. She and I became excellent friends when we "understood" each other. Let me mention just one more "sport" of these cross-breds.

Some of them have great drooping red combs hiding one eye, like the Spanish and Minorcas; others have Buttercup comb, and still others no comb at all. There is one jet-black pullet, with no comb at all, that has a nest in a square can, "all her own," that has laid *almost* every day since she commenced in November, and she has the most fascinating musical cackle I ever heard. It gives me a "thrill" every time I hear it. It says to me, "Rejoice and be glad," exactly as Pollyanna puts it.

This winter I haven't bought a pound of "chick feed." It costs too much, and there is always a lot of stuff in it the chicks won't eat. I give them "bread and milk" until they are old enough to eat wheat. There is no waste with bread and milk, and I think they grow faster than on any other diet, and this reminds me I want to say a few words more about that divergent poultry ranch. Just recall to mind the granary and feed-

* She didn't go "on foot" when she chased me either—not much!

house is in the center. Four double houses surround the granary, and every flock has a yard running out like the spokes of a wheel. Now, four houses and yards are enough for 50 hens, so there are four more vacant until the chicks begin to hatch, then every hen with her brood has a house (really half a house) all to herself. No big chickens get at their bread and milk; and as they grow she can take them further and further every day out among the palmettos and other underbrush. If a storm comes up she is pretty sure to make for the central shelter. All feeding and egg-gathering, as a rule, is in this central group of houses.

After they had all got located (a rooster with his dozen hens to each yard) I tried opening the gates and letting the adult fowls all run together on Stoddard's colony plan, and it works nicely. At night they all go to their own roosts, and each flock goes away off in its own yard except when they come home for feed and water, and to lay. It is true a few hens have stolen nests out in the underbrush; but Wesley so far has "spotted" them very soon by their cackle, and brought in the eggs for home use.

Well, when each hen with her brood has a big yard all to herself she finds quite a lot of bugs and worms, to say nothing of green stuff for her brood. If she *knows* where to get wheat and water every hour in the day she almost cares for herself and brood. Each hen and chicks has a big head of lettuce every morning, and the grown-ups have a heaping bushel in the wire-cloth basket I have described.

I told you that, when we arrived here in November, I got only four or five eggs a day. Well, with all I could do the flock came up very gradually; but now we get close to three dozen every day. Until Feb. 1 we had 40 cts. a dozen; but all at once it seemed "everybody's hens" began to lay, and the price dropped to 25 cts. in about one week.

THE INDIAN RUNNER DUCKS.

Early in November we got one day 17 eggs from 24 ducks; but through December and January they didn't average a dozen, and one or two days only three or four eggs. This is so different from former winters I hardly know how to account for it unless it is true with ducks, as with hens, that small flocks *always* lay better than large numbers. Still, 25 should not be called a large flock.* I gave them mustard liberally from that barrel I told you about, but it does not seem

to work with ducks (at least not *this* winter) as it does with hens. We feed ground bones and meat scraps two or three times a week to all, big and little. Next to this they all seem more fond of lettuce than any thing else, and we are now growing lettuce just for the fowls. It does finely on ground that has once been a "chicken yard," and I believe the chickens' heads are "level" on lettuce. It is *God's* medicine and food, both together, and good for *people* as well as chickens.

FLORIDA PESTS; CASSAVA, ETC.

I have been reading this journal for 21 years, and my sympathy is all with Mrs. Root in her efforts to curb your fervor in description of "discoveries" and in following you in your wayward career through life and into the wilds of the west coast of Florida, where I can easily believe the trials imposed by insect pests, if not warded off properly, will induce the same results as they do on this east coast: viz., profanity, disgust, and strong drink. However, if a person will consider the matter calmly, and study the ways of the pests, it is possible to beat them at their own game of torment. For sand flies and mosquitoes, use a bee-smoker. Rotten heart pine is the best fuel. A rotten railroad tie is the stuff. For roaches (common palmetto roach) *Palma tosilpha Floridiana*, I make traps of tumblers baited with honey. Just grease the inside of the glass. A strip of paper is pasted to the outside from bottom to top, and then put in a dark place, and left alone until it needs to be cleaned and rebaited.

Whitewash with common lime all dark places that are their harbors, and let spiders, lizards, chameleons, and harmless snakes have the privilege of pursuing their prey in and about the premises, and *kill all you see*.

Poison is dangerous, and not necessary. I can draw on 27 years and 10 months of life spent in southern Florida for experience to prove my theories. I am 54 years of age, a native of New Jersey, and Jack at many trades. I am not much of a gardener, growing some things only for my own use and learning the reason why they have failed in the past to produce any vegetables for home use, except by lucky accidental planting; however, it is *not* by lucky accidents that I can dig 20 and 30 lbs. of sweet potatoes from one hill and runners, or gather 150 to 250 pods of okra from a single plant. It is soil, season, and knowing how, supplemented by sub-irrigation that naturally is found in low lands bordering rivers and lakes.

If you care to try out my variety of sweet potato I will send you seed and cuttings at any time.

As to the dasheen, I wish to compare it with the sweet potato in quality and quantity.

About your cassava, you will find the roots under ten inches, when grated as horseradish is grated for use, and then made into pudding as rice is used, have something *more* than "chicken feed" in them. The Bahama negroes use it as a staple article of food.

Grant, Fla., Jan. 30.

L. K. SMITH.

In regard to cassava there are many inquiries as to where cuttings can be procured, as I do not find them advertised anywhere. If some Florida friends will undertake to furnish canes for planting, say by parcel post, I will give their names free of charge. We are now getting "rooted cuttings" in a bed in the garden, to be put in the field later, so as to have a perfect stand.

* *Later*.—It is now March 3, and the ducks have been doing very well all this February; but duck eggs brought only 20 cts., while hens' eggs were 25 cts.

High-pressure Gardening

ANOTHER OF GOD'S GIFTS FROM SOUTH AFRICA
—THE SESAME.

Mr. A. I. Root:—As you say that you would like to try some of our sesame, as prepared by our natives, and which we use a good deal, I am sending a small sample of the same. We took some home when we went on furlough three years ago, and it kept all right except that it lost some of its flavor and fragrance, perhaps. I inclose a few of the seeds as they appear after the hulls have been rubbed off, but before they are crushed. The process as the natives prepare the seed is, first, to moisten the seed with water (preferably hot), then rub between the hands until the hull is removed. Then the seeds are slightly roasted in a pan or piece of broken pot. This is the most delicate part of the operation—not to burn them or roast them unevenly. Then they pound them in a wooden mortar to reduce them to meal.

We use this meal on our porridge, oftentimes, with any other dressing, or alone, according to taste. I think it goes especially well with honey.

Referring to our amadumbe as compared with the dasheen, it would seem to me that those who write concerning the dasheen emphasize the need of wet ground more than would seem necessary in case of the amadumbe. While they bear and need a fair amount of water they are often raised with success, and yield an abundant crop, on high ground, such as would be quite suitable for Irish potatoes.

W. L. THOMPSON, M. D.
Mount Silinda, Melssetter, S. Rhodesia, Dec. 6.

The sample of sesame meal came to hand; and if Mrs. Root had not forbidden I should be very much inclined to say "It is the most delicate, delicious, and nourishing food I ever tasted." Peanut butter comes nearest to it; but there is a delightful "fragrance" about it, as friend T. intimates, that is unique. May God be praised for sesame as well as dasheen. I have carefully planted the seeds sent; and if they *grow* you may expect *another* "stir" from these parts in regard to "the high cost of living." Our Department of Agriculture had better send our good friend Prof. Young to look it up and have it tried at our Brooksville sub-station.

SWEET CLOVER—THE SOIL-MAKER.

From *The Ohio Farmer*.

It was springtime in the late nineties when a stranger rode along the winding highways of Kentucky. The blossoms had fallen from the fruit-trees, and the leaves on the forest giants were taking on the deeper green of approaching maturity. The sunshine was soft and warm, and the very air seemed to breathe life and vigor. The stranger's companion—a native of that region—seemed to be the only thing out of harmony that wonderful April day. His face was sad and the wrinkles of care were not hard to discern. Sorrowfully he pointed to the barren gullied hillsides and said, "This was once a portion of the famous Blue Grass country; but the soil is getting poorer and poorer, for the rains are gradually washing the fertility into the valleys." For a moment he paused; and then, stretching his arm toward the green plants which lined either side of the road, he continued, "Aside from the trees, about the only thing that'll grow up here is this weed!" The stranger looked intently at the growing plants; then, springing from the buggy, he grasped a bunch in his hand

and exclaimed, "Man alive! this is not a weed, it's sweet clover; and to these limestone hills sweet clover means a rebirth of virgin soil!" To-day those hills are no longer eroded and barren, for great fields of this legume are to be seen everywhere; and, moreover, the blue grass is again being established in the wake of the sweet clover.

When the plant is young it is difficult to distinguish from alfalfa; and, in fact, it is a sort of half-brother to alfalfa, for the bacteria on its roots are of the same species as found on the alfalfa roots, and they perform the same function of gathering nitrogen from the air to enrich the soil.

Naturally the question is asked, "If this is true, why not grow alfalfa instead of sweet clover? Alfalfa makes better hay and pasture. It will last for a number of years, and its roots contain more nitrogen. What is the advantage of sweet clover over alfalfa?" The answer is apparent when it is stated that sweet clover will grow on poor worn-out soils on which it would be impossible to establish any other of the clover family. Its seeds thrive on soils of the hardest type where other plant seeds would fail to germinate. It will make a most wonderful growth on soils totally deficient in nitrogen if limestone, phosphorus, and inoculation are present. On a soil of this type, sweet clover will add an enormous supply of nitrogen, for it depends wholly on its supply of this element from the air. It is also an excellent crop when used to pave the way for alfalfa, because, as mentioned before, it carries the same bacteria on its roots.

If one choose a field with a water-table too high for alfalfa or too poor to grow alfalfa, sweet clover is recommended. Although the roots of sweet clover do not grow to such a depth as alfalfa, yet they draw considerable plant food from the subsoil. When they decay they offer a source of drainage; and the soil, when plowed, breaks up fine and friable.

There are many thousand acres in the United States too poor to grow paying crops of corn and alfalfa, which could be profitably sown to sweet clover. While the process of soil restoration is in progress many pounds of honey, wool, mutton, and beef would come from the growing crop. Considerable seed may be obtained from an acre, and it brings a price equal to alfalfa seed. But, above all, its greatest value is as a soil-builder. If turned under it will supply more organic matter, more nitrogen, and at a minimum of cost, than any other known fertilizer or legume.

The magical words "open sesame" swung wide the doors of the great treasure-vault for Ali Baba in one of those charming tales related in Arabian Nights. Surely in our modern times sweet clover is the "open sesame" of soil-building for the American farmer.

Champaign Co., Ohio.

TRELL W. YOCUM.

THE "BLACK HAND" DOWN IN JACKSONVILLE, FLA.

We clip the following from the *Times-Union*:

Mrs. Collins found the following Black Hand letter pinned to the door one morning:

"Deer Mis Collins—Unless you put a jar of jam, a hunk of chokolit cake, a apple pie an' a bag of candy down by the old well, we will steel vou little boy and keep him, unless you pay us a millyon dollars."

It seems to me the above has the earmarks, not only of the Black Hand, but of somebody who is black all over.

Health Notes

"GOOD HEALTH AND A GOOD BANK ACCOUNT AT ONE STROKE."

I have thought fit to copy the following from the *Youngstown Telegram*, contributed by Ella Wheeler Wilcox, because it hits so completely just what Terry and I have been for years trying to drum into the minds of mankind. It not only hits squarely the high cost of living, but it also hits just as squarely a method of avoiding expensive medicines and doctors' bills.

ONE MAN'S DIET, AND WHAT IT DID FOR HIM; SUCH A MENU CALLS FOR GREAT SELF-DENIAL ON THE PART OF MOST HUMAN BEINGS, BUT IT SAVED THIS MAN FROM THE GRAVE.

In an exchange a man writes an account of how he keeps his family in health and with appetites satisfied on an incredibly small sum of money. Three people live on two dollars a week, and enjoy the best of vigor. There has been no physician called in the last seven years, and the bank account has grown steadily.

The diet prescribed by this man would call for great will power and continual self-denial on the part of most human beings.

It is a curious fact that even those men and women who believe themselves to be quite spiritual in their ideas of life, and who would be horrified to think any one regarded them as carnal or gross in their tastes, are yet unable to eliminate from their diet for any length of time the foods which they know to be injurious (or at least unnecessary to the sustaining of strength and health). A very charming young woman, who is filled with high ideals of life, declared she would rather die and be done with it than force herself to give up her favorite foods and beverages (coffee in particular) in order to benefit her health.

Nevertheless, when a man makes such positive statements regarding the benefits resulting from such a diet, benefits to body and purse, it is worth considering. Let us listen to what he says:

"Here's a well-balanced ration for one day. I eat only a little fruit for my breakfast.

"Breakfast—One apple or banana.

"Dinner—One dish of home-made corn flakes, one dish of boiled wheat cereal, one dish of vegetable salad, two or three slices of whole-wheat bread, one banana.

"Supper—One dish of home-made wheat flakes, one dish of home-made hulled hominy, one baked potato, one dish of fruit salad, whole wheat or graham bread.

"I suppose you will say that sounds monotonous, but I don't eat to gratify a discerning and whetted appetite. I eat to be strong and well, and to supply my body with the foods that it really needs.

"Nine years ago I was a wreck—worse than that, two doctors gave me from two to four months to live.

"The food elements needed by the body may be divided into seven classes—protein, starch, sugar, fats, salts, cellulose, and water—and these again into about fifteen different chemical elements, all of which are found in a single kernel of wheat, in just about the correct proportions.

"No other food in the world equals wheat in perfection. I have lived on wheat in various forms, with about 10 per cent of nuts, for weeks at a time.

"I am careful about buying my supplies, so that they will cost me the least money. I have a flaking machine. You can buy one, and make your own flakes at one cent a pound. I buy the corn and wheat for flakes by the bushel, and watch for opportunities to buy the fruits and vegetables at lowest cost. The apples and bananas usually cost me about three cents a pound, and my bananas I always get dead ripe—just turning black, as they are best then.

"I buy bread one or two days old at the rate of five for ten cents, for nothing would induce me to eat new bread. Cabbage and many other vegetables I eat raw.

"If I sometimes feel that I am not getting enough protein I add raw peanuts when I am making flakes and a little soaked dried fruit, such as figs, raisins, or dates, to make it a little more palatable.

"And all I drink is water—but plenty of it—though never near meal time.

"Now, that is my rule for health, and that is what I eat. What do you say to it? If you could have seen me nine years ago and could see me now you would know that there is something in it, for I am about the healthiest person you ever saw."

While the men and women who are enjoying good health may not feel interested in this menu, it should be clipped and saved, and tried by the many dyspeptics who are paying useless money for patent medicines and seeing doctors with no results.

Poor people who are trying to sustain life on cheap food badly cooked, and who find the food trusts an insurmountable obstacle to economy, could not do better than to give this diet a fair trial for a few months.

Health and a good bank account may result—two great factors in happiness.

This man has a fruit meal for *breakfast* instead of supper, as I do. The dinner is about like mine; and, of course, if he has a fruit breakfast he wants something different for supper. "*No other food in the world can equal wheat.*" Terry and I have come to that conclusion exactly. Can some one tell us about this flake-making machine? Bread two or three days old is what I always call for if I can get it. I also eat raw peanuts occasionally—parched, of course. When fresh fruits are scarce I "go for" the dried or evaporated fruit as you may remember. Drinking water *between* meals is also a very important matter. I heartily agree with the writer where she says you had better clip out the above and paste it up where you can see it often. Now please note the concluding sentence—"killing two birds with one stone" with a vengeance—*good health and a good bank account* at one stroke. Are you not ready to exercise a little self-control as above?

We submitted the above to friend Terry, and he replies as follows:

The "flaking-machine" which Mr. A. I. Root refers to in a recent letter, and which is mentioned in inclosed proof, is made by The Dana Mfg. Co., Cincinnati, Ohio. It is called "The Dana Food-chopper." I bought one several months ago, of the Chicago man referred to by Ella Wheeler Wilcox, for \$1.25. It will "flake" into narrow stringy ribbons wheat which has been soaked for four or five hours until soft clear through. I tried this "flaked wheat" faithfully, both raw and cooked. For cooking we much prefer wheat cracked finely, or granulated, in our hand mill, and it is much less trouble to prepare it.

The Dana is a much better cutter than we have had before, and it is far easier to wash, as there are only two pieces, and they are easy to get at. Ours is No. 20, a small size.

It is possible that this raw flaking-machine wheat is better food than our cooked cracked wheat, but I am doubtful about it, and we like the cracked wheat better. I think it well to be slow about accepting at their face value all the statements in that article.

Hudson, Ohio, Nov. 3.

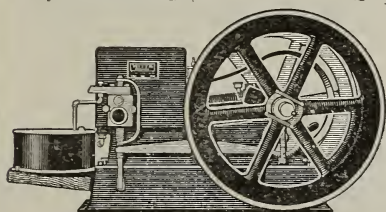
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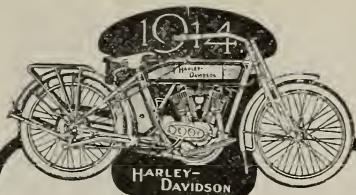
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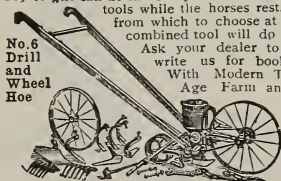
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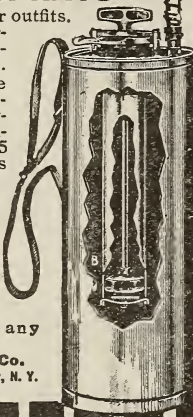
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with any other incubator. Belle City has won Eight World's Championships and thousands have made 100 per cent perfect hatchings. Send for my New Book, "Hatching Facts." It tells of big money making successes. My low price will surprise you. Write today.

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Big Poultry Profits

Secure this year—if well equipped. Enormous demand. Top prices. Get Cyphers Co.'s big Free book. Tells all—244 pages—fully illustrated—pictures, describes

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YOUR HENS YOUR FARM YOUR MONEY

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GREIDER'S FINE CATALOGUE

and calendar of pure-bred poultry for 1914, large, many pages of poultry facts, different breeds in natural colors. 70 varieties illustrated and described: incubators and brooders: low price of stock and eggs for hatching. A perfect guide to all poultry-raisers. Send 10c for this noted book.
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Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil

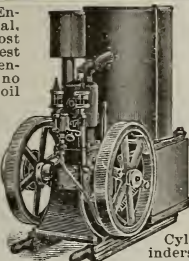
Gasoline GOING UP!

Gasoline is 9c to 15c higher than coal oil, and still going up. Two pints of coal oil do work of three pints gasoline.

AMAZING "DETROIT"

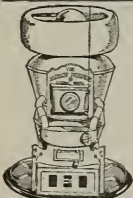
—only engine running on coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts —no crans—no sprockets—no gears —no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h.p., in stock ready to ship. Engine tested before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric lighting plant. Prices (stripped) \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low introductory price. Write (138)

Detroit Engine Works, 373 Bellevue Ave., Detroit, Mich.



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This No. 1 Jahant Down-Draft Furnace (weight over 1000 lbs.) as it stands \$45.00 cash, delivered east of Omaha and north of Ohio River.

Our monthly payment plan of selling direct saves you the dealer's profits and charges for installation. The

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with the patented "Down Draft System" is best for residences, schools, hotels, churches, etc., because it delivers plenty of heat wherever and whenever desired at a saving of 1-3 to 1-2 in fuel bills. Install the Jahant yourself. We send complete outfit, freight prepaid with special plans, detailed instructions and all necessary tools for installation. Satisfaction guaranteed or money refunded.

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Save 1/3 to 1/2 on Fuel Bills

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FREE BARGAIN BOOK

Save 30 per cent buying direct from factory on 60 days' trial with money-back guarantee. Our FREE CATALOG proves it.

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FARM FENCE FROM FACTORY TO FARMER

Made of OPEN HEARTH STEEL WIRE. Proven by tests to be the most durable wire produced. Heavily Galvanized with PURE ZINC. Sixty different styles and heights, each a satisfying-quality fence.

WE SELL DIRECT TO THE FARMER AT DEALER'S PRICES.

Be your own merchant and put the Dealer's Profit in your own pocket where it belongs. The following are a few of our big values:

- 26-inch Hog Fence, - - 14c. per rod.
- 41-inch Farm Fence, - - 21c. per rod.
- 48-inch Poultry Fence, - 22½c. per rod.
- Special Barbed Wire, \$1.40 per 80-rod Spool.

Sold on 30 DAYS FREE TRIAL. Get in with the shrewd buyers by sending for our big free Catalogue. It's full of fence bargains. Write for it today.

COILED SPRING FENCE CO.
Box 101 Winchester, Indiana

KITSELMAN FENCE



We make you the same price we would make the Dealer or Jobber. That is why we can save you money. Look at these very low prices.

14 CENTS A ROD

for 26-in. hog fence

23½ c. a rod for 49-in. farm fence

25½ c a rod for 60-in. poultry fence

\$1.40 for 80 rod spool of Ideal

Barbed Wire. Large free Catalog showing 100 styles of Farm, Poultry and Lawn Fence.

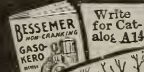
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BROWN

Direct from factory, freight prepaid. Over 150 styles for every purpose, all Double galvanized, 13c per rod up. New Bargain Catalog and Sample to test, ALL FREE. Mail postal NOW, to THE BROWN FENCE & WIRE CO., Dept. 31 Cleveland, Ohio

FENCE

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KEROSENE ENGINE

"The Masterpiece of the Largest Makers of Two-Cycle Engines in the World"

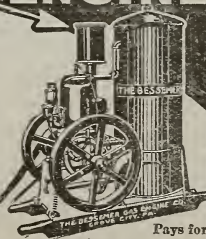
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You can raise large crops of delicious berries from a small piece of ground if you start right—with hardy, prolific, carefully grown plants selected from **ALLEN'S TRUE-TO-NAME VARIETIES**

All standard early and late strains for every soil and climate requirement. **WRITE FOR 1914 BERRY BOOK.** Allen's Berry Book is full of valuable information on how to grow berries and small fruits profitably. It lists and describes Strawberries, Blackberries, Raspberries, Grapes; Currants, Asparagus, etc. Copy sent **FREE** upon request.

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BEST IN THE WORLD

Prices Below All Others

I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

Big Catalog FREE

Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

R. H. SHUMWAY, Rockford, Illinois

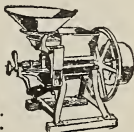


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for you to prove that all kinds of meal, oats or corn, can be ground the fastest and finest on

QUAKER CITY MILLS

We pay the freight. 23 styles—hand power to 20 h. p. Write for catalogue, also for bargains in farm supplies. **The A. W. Straub Co., Dept. R, 3748-50 Filbert St., Philadelphia, Pa. Dept. G, 3703-11 So. Ashland Ave., Chicago, Ill.**



850,000 GRAPE VINES

69 varieties. Also Small Fruits, Trees, etc. Best rooted stock. Genuine, cheap. 2 sample vines—10c. Descriptive price list free. **Lewis Roesch, Box K, Fredonia, N. Y.**



40 ACRES solid to Superb, Progressive, American and other best everbearers. Get acquainted offer for testing. Send us 10c for mailing expense, and we will send you 6 high quality everbearing plants (worth \$1) and guarantee them to fruit all summer and fall, or money refunded. Catalogue with history **FREE** if you write today. **THE GARDNER NURSERY CO. Box 130 OSAGE, IOWA**

Hill's Evergreens Grow

Best for windbreaks. Protect crops and stock. Keep house and barn warmer—save fuel—save feed. Hill's evergreens are hardy, nursery-grown—low priced. Get Hill's free illustrated evergreen book and list of Great Bargain Offers—from \$4.50 up per Thousand. 56 years experience. World's largest growers. Write. **D. HILL NURSERY CO., Inc. Evergreen Specialists. 246 Cedar St., Dundee, Ills.**



SCARFF'S SEED CORN

5000 bushel crop 1912 Tested and sure to grow. Finest quality. 20 leading varieties. Also Seed Oats, Barley, Grass Seed, Potatoes, etc. Samples on application. 1100 acres. Be sure to get our new catalog. Write today. **W. N. Scarff, Box 67, New Carlisle, O.**



The Name Burpee

is known the world over as synonymous with **The Best Seeds That Grow!** Are You willing to pay a fair price for selected seeds that grow? If so, it may prove of mutual interest if you **write to-day** (a postal card will do) for **The New Burpee Annual**. This is a bright book of 182 pages that is intensely interesting to every one who gardens either for pleasure or profit. Shall we mail you a copy? If so, what is your address? Our address is, **W. ATLEE BURPEE & CO., Philadelphia**



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Phelps Split Hickory Buggies are made of tough, sinewy Second-Growth Hickory—split, not sawed. Strongest made buggies on earth. And sold direct to you by me. I save you the big money the traveling salesmen, middlemen, retailers add to the manufacturing cost—the actual value of the buggy.

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I say you can. You can do it by buying from me direct. 200,000 men all over America have bought my buggies direct. Scores of them right in your own section no doubt.



THALE'S REGULATIVE VACUUM BEE-FEEDER

THIS ILLUSTRATION shows the special designed bottle which controls the feed on Thale's Regulative Vacuum Bee-Feeder. This feeder is designed under the latest scientific method of controlling the feed by means of Vacuum and keeping the feed at a certain level, and in reach of the bees at all times. The slide is the means of increasing or decreasing the amount of feed. (See March 1st issue.) This feeder is manufactured by the most skillful workmen, and its construction is perfect. Over 20,000 of these feeders were sold in January, and some of those who have received them have re-ordered more, and have expressed their opinion that this feeder will unquestionably be the most profitable investment for the beekeepers. The Chicago-Northwestern Beekeepers' Association which was held in Chicago Dec. 17-18, 1913, to whom I have described and demonstrated this feeder in detail and in use, gives the following endorsement:

WHEREAS, This Convention has been impressed by the exhibit of the Thale Regulative Vacuum Bee-Feeder, and believe that the same is a good device for stimulative feeding—

THEREFORE, Be it resolved that the Chicago-Northwestern Beekeepers' Association in convention assembled, do heartily endorse the above device as a practical instrument for the beekeeper at large.

Signed { I. E. PYLES,
ARTHUR STANLEY,
W. B. BLUME.

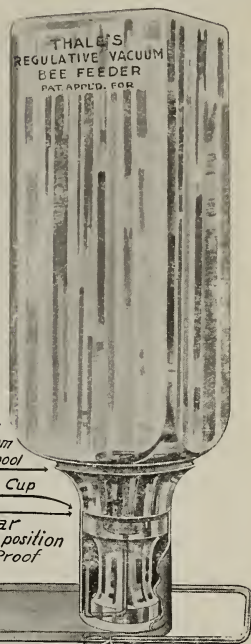
I want over 100,000 of these feeders in use by June 1. I will ship you as many feeders as you need on ten days' free trial in your own apiary, and if these feeders do not work as represented you may return them to me at my expense, and your money will be refunded. If no money is sent, fill in and cut out Free Trial offer below and mail to me at once. Address Free Trial Dept., G 194.

Send for feeder circular and bee-supply catalog. I carry a full line of Lewis Beeware and Dadant's Foundation. One of my Vacuum Bee Feeders complete with two bottles FREE with every ten-dollar order. Send me a list of your wants—it is no trouble to answer letters.

TERMS, CASH WITH ORDER

Sample Feeder, with 2 bottles complete, mail postpaid, 55c
Ten Feeders, complete with 1 bottle, freight or exp., each, 35c
All orders over ten feeders, each, only 30c
Extra bottles with cork valve, each 10c

Rain Shed Collar
prevents water from
getting into feed pool
Storm Proof Feed Cup
Close Fitting Collar
holds bottle firm in position
and Robber Proof
Feed Indicator



H. H. THALE, INVENTOR AND MANUFACTURER Box C25, MAYWOOD, MISSOURI
Eastern Buyers Send Orders to Earl M. Nichols, Lyonsville, Mass., and B. H. Masters, Edison, Ohio
TEN DAYS' FREE TRIAL OFFER

Please send by..... Freight: Parcel Post (send postage) Express
Postoffice..... R. R. Station..... State.....
Send at once (number of feeders)..... feeders on ten days' free trial. Title of feeders to remain with
H. H. THALE, of MAYWOOD, MO., until payment in full is made or feeders returned.
How many colonies have you?..... Annual crop..... lbs.
Produce comb or extracted?..... Sign.....

L I S T E R I N E

Use it every day

LISTERINE is an agreeable antiseptic mouth-wash that keeps the teeth and gums sweet and healthful and neutralizes breath odors. Listerine is as necessary for the complete toilet of the mouth as the toothwash.

All Druggists Sell Listerine.

LAMBERT PHARMACAL COMPANY, St. Louis, Mo.



Queens and Bees

We are now booking orders for our celebrated Leather-colored and Golden Italian Queens. Bees in $\frac{1}{2}$, 1, and 2 lb. packages. Nuclei in 1, 2, 3, or 5 frame, either on Danz. or Hoffman frames. Full colonies in 8 or 10 frame L. hives or Danz. 10-frame hives. Write at once for special card of prices, and book your order with us early.

Letter of endorsement to us from The A. I. Root Co.:

Medina, Ohio, Feb. 6, 1914.

The Penn Co., Penn, Miss.:

Replying to yours of Feb. 3, we would state that we have bought a large number of queens of you. We have found them uniformly marked, and of a good stock; in fact, they are first-class in every respect. Another thing, we have always found that you make prompt deliveries, or give us notice promptly when such deliveries could not be made.

THE A. I. ROOT CO.,

by E. R. Root, Vice-president.

Get our prices at once. . . . The largest queen and bee yards in the South.

The Penn Co., Penn, Mississippi

Three-banded Italian Bees and Queens!

Guaranteed safe arrival and satisfaction. Untested queens, 75 cts. each; \$7.50 per dozen. Tested, \$1.50. Choice breeders, \$5.00. Nuclei, \$1.25 per frame, good supply of bees. Half pound bees with queen, \$2.00. One pound bees with queen, \$3.00, full weight. Full colony in eight-frame hive with queen, \$6.50; in ten-frame, \$7.50. Best mail and express service in the South. Only 12 hours to St. Louis, Mo.

THE STOVER APIARIES, MAYHEW, MISSISSIPPI



BUY CARNIOLANS IN CARNIOLA

Pure Carniolan Alpine bees. Write in English for booklet and Price list. . . . Awarded 60 honors.

JOHANN STRGAR, .. Wittnach

P. O. Wocheiner Feistritz, Upper Carniola (Krain), Austria

Marchant's Island Bred Queens

Bred from selected mothers, and mated to isolated drones of a different strain. My aim is quality and not quantity. So if you want any of these choice purely mated three-banded Italian queens order now or you may not get them as I am going to rear only a limited number. No disease, and your money back if not satisfied. The A. I. Root Co. use my queens, which is proof of their quality.

No need to write for lower prices.

Reference, The American Exchange Bank of this city.

Prices—Untested, single, \$1.50; 6 for \$6.00; 12 for \$10.00; in lots of 25 or more, 75 cts. each. Select tested, \$3.00. Breeders, \$5.00 and \$10.00.

A. B. Marchant, . . . Apalachicola, Florida

Queens from Caraway's Prize-winning Stock. . . .

Ready for Shipment
after March 20

Book your early orders now! Send cash when you want the queens. Prices of tested queens till May 1: One for \$1.25, six for \$6.00; untested, before May 1, one for \$1.00, six for \$5.00; breeding queens, \$5.00 each. I will breed the Golden also this season; can send Golden after April 15 at same prices as the three-banded Italians. . . . Entire satisfaction guaranteed on every queen purchased from me.

B. M. CARAWAY, . . . MATHIS, TEXAS
Queen-Breeder

This is the season for discounts on Bees and Bee Supplies

If you will send us a list of goods needed we will be pleased to quote you on them. Catalog free.

I. J. STRINGHAM, 105 PARK PLACE, NEW YORK
Apiaries, Glen Cove, L. I.

The A B C of Bee Culture

The only cyclopedia on bees, 712 pages, fully illustrated. Every phase of the subject fully treated by experts. Price \$2.00 postpaid; money refunded if unsatisfactory.

THE A. I. ROOT CO., Medina, Ohio.

GOLDEN ITALIAN Queens

Reared from straight five-band mothers, mated with select golden drones, $\frac{3}{4}$ miles from three-band apiary. These queens are large, vigorous, and prolific; the bees gentle and hustlers, and are noted throughout the U. S. as a disease-resisting strain. Purity of mating, safe arrival, and satisfaction guaranteed.

QUEENS	May 1st to June 1st			June 1st to July 1st			July 1st to Nov. 1st		
	1	6	12	1	6	12	1	6	12
Untested	\$ 1.25	\$ 6.50	\$11.50	\$ 1.00	\$ 5.00	\$ 9.00	\$.75	\$ 4.00	\$ 7.50
Select Untested	1.50	7.50	13.50	1.25	6.50	12.00	1.00	5.00	9.00
Tested	2.00	10.50	18.50	1.75	9.00	17.00	1.50	8.00	15.00
Select Tested	2.75	15.00	27.00	2.50	13.50	25.00	2.00	10.00	18.00

Breeders, \$5.00 to \$10.00.

Queens for export will be carefully packed in long-distance cages, but safe arrival is not guaranteed.

BEN G. DAVIS, SPRING HILL, TENNESSEE

Classified Advertisements

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the Classified Columns or we will not be responsible for errors.

HONEY AND WAX FOR SALE

See our special sale of honey on advertising page 18 of this issue. THE A. I. ROOT CO., Medina, O.

FOR SALE.—Choice extracted honey in new 60-lb. cans at 9 cts. per lb. J. P. MOORE, Morgan, Ky.

FOR SALE.—Finest quality buckwheat honey in cans and kegs. Clover honey all sold. C. J. BALDRIDGE, Kendaia, N. Y.

FOR SALE.—Aster, goldenrod, yellow-top honey-blends, fine quality, $5\frac{1}{2}$ cts. per lb. JOE C. WEAVER, Cochrane, Ala.

FOR SALE.—No. 1 buckwheat comb, \$3.00 per case, 24 sections to case. JOSEPH M. ELSBREE, Waverly, N. Y.

FOR SALE.—No. 1 white comb, \$3.50 per case; No. 2, \$3.20; in 4 x 5 sections, 24 lbs. to case. WILEY A. LATSHAW, Carlisle, Ind.

FOR SALE.—No. 1 white comb honey; \$3.00 per case 24 sections; 120 lbs. amber extracted honey at 6 cts. per lb. H. J. AVERY, Katonah, N. Y.

FOR SALE.—White-clover honey, none better. In 10-lb. pails, six in a case, at \$6.50 per case; 5-lb. pails, 12 in a case, at \$7.00 per case; $\frac{1}{2}$ -lb. glass jars, 24 in a case, at \$2.80 per case. Sample, 4 cts. Also in 60-lb. cans, very nice amber honey. HENRY STEWART, Prophetstown, Ill.

FOR SALE.—Blended raspberry, buckwheat, and goldenrod honey; has a thick body and a strong and very rich flavor. Put up for sale in new 60-lb. tin cans. Price, \$5.00 a can. Sample by mail, 10 cts., which may be applied on an order for honey. ELMER HUTCHINSON, Pioneer, Mich.

FOR SALE.—No. 1 white comb, \$3.25 per case; No. 2 white, \$2.75; No. 1 fall comb, \$2.75 per case; No. 2 fall, \$2.50 per case. All cases have 24 sections to case, and six cases to carrier. Amber extracted, 8 cts. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

HONEY AND WAX WANTED

WANTED.—Comb, extracted honey, and beeswax. R. A. BURNETT & Co., 173 So. Water St., Chicago.

WANTED.—Comb honey and beeswax. State what you have and price. J. E. HARRIS, Morristown, Tenn.

WANTED.—Beeswax; best market price paid. Write to C. C. REINKING Co., South Bend, Ind.

WANTED.—Honey, extracted and comb. Will buy or handle on commission. Beeswax—will pay highest price. HILDRETH & SEGELKEN, New York, N. Y.

FOR SALE

For bees, queens, or material—typewriters, violins, printing-press, write E. C. BIRD, Boulder, Col.

FOR SALE.—A full line of Root's goods at Root's prices. A. L. HEALY, Mayaguez, Porto Rico.

FOR SALE.—Full line of Root's goods at factory prices. E. M. DUNKEL, Osceola Mills, Pa.

Beekeepers, let us send you our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap. WHITE MFG. CO., Greenville, Texas.

New crop of extra-fine quality alfalfa seed, \$6.50 per bushel; sacks, 25 cts. extra; also some sweet-clover seed. R. L. SNODGRASS, Augusta, Kan.

FOR SALE.—Empty second-hand cans, two cans to the case; good as new; 25 cts. per case. C. H. W. WEBER & Co., Cincinnati, Ohio.

Dasheen seed \$4.00 bushel, f. o. b. Ten lbs. \$1.00 prepaid. THOS. PORTEUS & SONS, Rt. 3, Box 126, Tampa, Fla.

FOR SALE.—Better hive for less money. Beekeepers' supplies and standard-bred Italian bees. Write for catalog. A. E. BURDICK, Sunnyside, Wash.

The best of bee goods for the least money. Send for new catalog. Satisfaction guaranteed or money refunded. H. S. DUBY & SON, St. Anne, Ill.

FOR SALE.—Root's goods and Dadant's foundation at factory prices. SPENCER APIARIES, Nordhoff, Cal.

FOR SALE.—500 lbs. yellow biennial sweet-clover seed at \$14.00 per bushel of 60 lbs., hulled seed. R. L. SNODGRASS, Harrisburg, Col.

FOR SALE.—Root's goods at factory prices. Fresh stock and prompt accurate service. Let's get acquainted. L. W. CROVATT, box 134, Savannah, Ga.

FOR SALE.—20 cts. each; 75 T-tin honey-supers for ten-frame Langstroth hive; use $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ or $1\frac{1}{2}$ plain sections. GEO. L. FERRIS, Atwater, N. Y.

FOR SALE.—Plain section supers, fences, and holders, nailed and painted, cheap. W. W. LAWRENCE, Centerville, Tex.

FOR SALE.—75 one-story complete Langstroth 10-frame hives, nailed and painted, in good shape; \$37.50 for lot. PHIL B. REED, Care of S. O. Co., Taft, Cal.

We are among the largest growers of alsike clover in this country, and offer good clean seed. Bushel, \$11.00; half bushel, \$5.75; peck, \$3.00. C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

FOR SALE.—15 dovetailed bodies with new Hoffman frames, 10 extracting supers with new frames, 17 comb-honey supers, $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ plain, 10 lids, 10 bottoms, 10 excluders, all eight-frame. \$20 for the lot. ROBERT SHOEMAKER, Rt. 3, Swedesboro, N. J.

FOR SALE.—The Weaver automatic honey-extractor. It reverses at full speed; is simple and positive; saves 50 per cent of labor and at the same time increases the output 50 per cent. A four-frame will do the work of an 8. Every one in the market for an extractor, send for particulars.

WEAVER BROS., Richmond and Falmouth, Ky.

The Beekeepers' Review Clubbing List: *The Review and Gleanings* one year, \$1.50. *The Review and American Bee Journal* one year, \$1.50. All three for one year only \$2.00. Dealers or those wanting to buy honey kindly ask for a late number of the *Review* having a list of 100 producers having honey for sale. Address

THE BEEKEEPERS' REVIEW, Northstar, Mich.

The National Beekeepers' Association now buys supplies for their members. Send us your order, enclosing the same money you have to pay others, and we will buy them for you on the co-operative plan. If not a member we reserve the right to retain \$1.50 from the profits on your first order to pay your membership dues and subscription to the *Review* one year. Sample copy of the *Review* free. Address NATIONAL BEEKEEPERS' ASSOCIATION, Northstar, Michigan.

WANTS AND EXCHANGES

WANTED.—Good farm from owner only. State price and particulars. TARPEY, Box 754, Chicago.

WANTED.—250 colonies of bees, from a location free from disease. BOX 3770, GLEANINGS, Medina, O.

Will buy bees. Myself examine, pack, and ship. Write F. A. ALLEN, Philipsburg, Quebec.

WANTED.—Bees in lots of 25 to 300 colonies, preferably within 250 miles of Detroit, Mich.
A. W. SMITH, Birmingham, Mich.

WANTED.—100 colonies of bees in lots of 25 or more.
J. VAN WYNGARDEN,
10829 Wabash Ave., Chicago.

WANTED.—To exchange dovetailed hives (new), two-frame extractor, and other supplies for honey. STANLEY INGALLS, Rt. 2, Lenox, Taylor Co., Iowa.

WANTED.—To exchange White Orpingtons for bees and supplies.
GEORGE RHEINFRANK, West Chicago, Ill.

WANTED.—To exchange bass-viol and standard frames cheap for extracted honey and wax.
G. C. THRASHER, Laquin, Pa.

WANTED.—To furnish every beekeeper within 500 miles of Boise, Idaho, with the best and cheapest bee supplies on the market, *quality considered*. Send me your order or a list of your requirements for 1914. Our catalog and price list will be mailed to you free. Order early and get the discounts.
C. E. SHRIVER, Boise, Idaho.

REAL ESTATE

For Sale at a Bargain, good improved $\frac{1}{4}$ or $\frac{1}{2}$ section farm near Bisbee and Douglas, Ariz. Best climate and best markets in the United States. Address the owner 423 So. 5th Ave., Tucson, Ariz. 64947

Virginia fertile farms, \$15 an acre up. Easy payments. Send names of two friends interested in Virginia, and receive our beautiful magazine, one year free. F. H. LABAUME, Agr'l Agt. Norfolk & Western Ry., Room 246, N. & W. Bldg., Roanoke, Va.

FOR SALE.—120 acres of good land right where the clover, raspberry, and basswood grow, and 240 colonies of good bees, and all of the extra fixtures for running three apiaries for extracted honey. Will sell cheap. Write for price.
E. S. FROST, Rt. 3, St. Louis, Mich.

Men of ambition prosper in the Southeast. Small capital with energy will accomplish wonderful results. Dairy, stock, fruit, or poultry will make you independent. Land sells from \$15 an acre up. Growing season from 7 to 10 months' duration. Modern schools, good highways and churches. "The Southern Field" Magazine and farm lists on request. M. V. RICHARDS, Land and Industrial Agent, Room 27, Southern Railway, Washington, D. C.

BEEES AND QUEENS

Phelps' Golden Italian Queens will please you. C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

Pure Italian bees or their hybrids, in L. 10 frames, wired, full foundation, 1 or 100.
JOS. WALRATH, Antioch, Cal.

FOR SALE.—150 colonies or carloads of Italian bees in ten-frame Langstroth hives, in Missouri. Address R. F. HOLTERMANN, Brantford, Ont., Can.

Golden-yellow Italian queens my specialty. Untested, \$1.00; tested, \$1.50. Ready April 1. Safe arrival guaranteed. E. A. SIMMONS, Greenville, Ala.

FOR SALE.—50 to 200 colonies, eight-frame, first-class.
E. F. ATWATER, Meridian, Idaho.

Phelps' Golden Italian Bees are hustlers. C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

FOR SALE.—200 colonies of Italian bees at \$5.00 per colony.
G. H. ADAMS,
Spring and Central Ave., Troy, N. Y.

FOR SALE.—40 colonies Italian bees in 8-frame hives, \$200. Will not sell less than whole lot.
S. V. REEVES, Haddonfield, N. J.

I am breeding a few choice tested and untested queens for March and April delivery. Moore stock now. Better write at once.
EDW. G. BALDWIN, DeLand, Fla.

My queens are bred from imported mother. For gentleness and honey-gathering they are unexcelled. Untested, 1, 75 cts.; 6, \$4.25; 12, \$8.00. Safe arrival. Address W. J. FOREHAND, Ft. Deposit, Ala.

FOR SALE.—Golden Italian queens that produce golden bees; for gentleness and honey-gathering they are equal to any. Every queen guaranteed. Price \$1.00; 6 for \$5.00. WM. S. BARNETT, Barnett's, Va.

Italian bees in pound packages and on comb our specialty; 30-page catalog giving beginners' outfit free; also queens.

THE DERROY TAYLOR CO., Lyons, N. Y.

1914 QUEENS.—Moore's strain of leather-colored Italians in April at 75 cts. Also bees by the pound, nuclei, tested queens. Write for prices on nuclei. Address OGDEN BEE AND HONEY CO., Ogden, Utah.

Queens ready in May. J. E. Hand strain of three-banded Italian, bred for gentle honey-gathering, and wintering. Write for price list and free booklet, "How to Transfer, Get Honey and Increase."
J. M. GINGERICH, Arthur, Ill.

Save those queenless colonies by ordering a tested three-banded Italian queen. One for \$1.25; six for \$6.00. These queens are guaranteed to please you, or your money refunded.

B. M. CARAWAY, Mathis, Texas.

FOR SALE.—50 full colonies pure Italian bees in eight-frame dovetailed hives with Hoffman frames at \$6.00 each. All queens last-year Moore. Hives in good condition, painted. No disease.
F. A. GRAY, Redwood Falls, Minn.

Queens and Bees for Sale.—See our large advertisement elsewhere in this journal, and read The A. I. Root Co. letter to us regarding our queens. Write at once for large bee and queen circular.
THE PENN CO., Penn, Miss.

FOR SALE.—Italian queens, bees by pound. Descriptive list free. Apiaries under State inspection. Leaflets, "How to Introduce Queens," 15 cts.; "How to Increase," 15 cts.; both 25 cts.
E. E. MOTT, Glenwood, Mich.

Phelps' Golden Italian Queens combine the qualities you want. They are great honey-gatherers, beautiful and gentle. Mated, \$1.00; six, \$5.00; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

Golden and three-banded Italian and Carniolan queens ready to ship after April 1. Tested, \$1.00; 3 to 6, 95 cts. each; 6 to 12 or more, 90 cts. each. Untested, 75 cts. each; 3 to 6, 70 cts.; 6 or more, 65 cts. each. Bees, per lb., \$1.50; nuclei per frame, \$1.50. C. B. BANKSTON, Buffalo, Leon Co., Tex.

FOR SALE.—Several yards of bees on five years' time and easy terms of payment. No disease, and best of locations. All we ask is that you help us work these bees for several months this year to show your ability to manage them. Further particulars on request. SPENCER APIARIES CO., Nordhoff, Cal.

Golden Italian queens that produce golden bees, the brightest kind, gentle, and as good honey-gatherers as can be found. Each, \$1.00; six, \$5.00; tested, \$2.00; breeders, \$5.00 to \$10.00.

J. B. BROCKWELL, Barnett's, Va.

Try Forehand's three-band Italian queens. They are raised from imported stock, unexcelled for honey and gentleness. One untested, 75 cts.; 6, \$4.25; 12, \$8.00. Send me your order; and if not satisfied I will return money. Safe arrival.

N. FOREHAND, Rt. 2, Brewton, Ala.

We requeen our bees every year with best Italian stock to prevent swarming. We offer the one-year-old queens removed from these hives at 50 cts. each; \$5.40 per doz.; \$40 per 100. Delivery guaranteed. Book orders now. Nuclei, any quantity, 2 frames, \$1.50; 3 frames, \$2.00. Add price of above queens wanted. SPENCER APIARIES Co., Nordhoff, Cal.

Queens bred from Moore's and Doolittle's best Italian stock; untested, 60 cts. each; \$6.60 per doz.; \$50.00 per 100. Tested, 90 cts. each, \$10.20 per doz.; \$80.00 per 100. Delivery guaranteed. Book orders now. Nuclei, any quantity, two-frame, \$1.50; three-frame, \$2.00. Add price of above queens wanted. SPENCER APIARIES Co., Nordhoff, Cal.

Goldens and three-band Italians, ready March 1. They have been bred for three points—prolificness, gentleness, and honey-gathering qualities. Select untested, each, 75 cts.; 6, \$4.25; 12, \$8.25; 50, \$32.50; 100, \$80.00. Tested, \$1.50; select tested, \$2.00; three-band breeders, \$4.00; golden breeders, \$5.00.

GARDEN CITY APIARY Co.,

Rt. 3, Box 86, San Jose, Cal.

FOR SALE.—California Italian queens. Goldens and Three-banders by return mail after March 15; select untested, 75 cts.; 12, \$8.00; tested, \$1.00; breeders, \$3.00. Bees by the pound a specialty, ready April 1; 1 lb., \$1.25; 2 lbs., \$2.25; large lots, less. Booking orders now. Deliveries and satisfaction guaranteed. Correspondence solicited. Circular free. J. E. WING, 155 Schiele Ave., San Jose, Cal.

GOOD QUEENS.—Good queens are a real necessity in any apiary if best results are to be expected. The old leather-colored three-band Italians have proven themselves to be the best general-purpose bee extant. These I can supply in any quantity you may wish. Untested, \$1.00 each; \$4.25 for six; \$8.00 per doz. Safe arrival and satisfaction. All orders will have prompt attention.

E. J. ATCHLEY, Bloomington, Cal.

FOR SALE.—Early swarms at fall prices; ½-lb. bees, \$1.00; 1 lb. bees, \$1.50. Add price of queen if wanted. Untested three-band Italian queens, 75 cts. each; tested Italian queens, \$1.25 each. These are bred from best honey-gathering strain. No disease. Safe arrival and satisfaction guaranteed. This is undoubtedly the best way for Northern honey producers to increase and improve their stock. Delivery begins about April 5. Capacity, 40 swarms per day. W. D. ACHORD, Fitzpatrick, Ala.

Many men of many minds; but the minds of practical beekeepers are turned toward the old reliable three-band Italians. We have them in their purity, new blood, new importation. Untested queens from March to June, \$1.00 each; \$4.25 for six, or \$8.00 per dozen; safe arrival and satisfaction to all customers. Write for prices on large quantities. You do not have to return dead queens to us—just state it so on a postal card, and queens dead on arrival will be replaced promptly.

THE GOLDEN RULE BEE Co., Riverside, Cal.

EARLY QUEENS.—Those who desire early queens can be supplied by sending orders to us. Only three-band Italians stand the severe test against diseases, and our bees are clean. Untested queens, \$1.00 each; \$4.25 for six; \$8.00 per dozen. Always safe arrival and satisfaction to everybody. If you desire queens in large lots early, better let us book you as soon as convenient, and money can be sent when queens are wanted. Your check is good, or any way you wish to remit.

THE RIALTO HONEY Co., Box 73, Rialto, Cal.

FOR SALE.—Three-banded Italian queens, nuclei, and bees by the pound. March 15 to June 15, untested queens, each, 75 cts.; 6, \$4.25; 12, \$8.25; tested, each, \$1.25; 6, \$7.25; 12, \$14.00. Bees by pound: 1-lb. package, \$1.25; 6, \$7.25; 12, \$14.00. If you wish a queen with bees by the pound add price of queen. Write for circular and complete list.

BROWN & BERRY, Hayneville, Ala.

POULTRY

Rhode Island Reds. Strong baby chicks for sale. Write me. E. O. WALTZ, Medina, Ohio.

Eggs for hatching. S. C. White Orpingtons. Matching list free. JAMES R. LAMPSON, box B, Medina, O.

Buff Wyandotte eggs from heavy laying strain, \$2.00 per setting. M. D. CHESBRO, Greenville, N. Y.

Stock and eggs for sale, all leading varieties; also geese and Belgian hares. Catalog free. LEVI STUMB, Richland Center, Pa.

Pure-bred Indian Runner ducks, snow-white eggs, 15 for \$1.00; 100 for \$6.00. J. C. WHEELER, 921 Austin Boul., Oak Park, Ill.

Pure white and fawn and white Indian Runners, Pekins. Catalog free. White-egg strains. THE DERBY TAYLOR Co., Lyons, N. Y.

LEGHORNS.—Eggs for hatching. S. C. W. Leghorns, \$5.00 per 100; \$1.00 per 15. Send for catalog. WOODWORTH FARM, Wilton, Ct.

EGGS.—20 for \$1.00; leading varieties prize poultry, pigeons, hares, etc. Booklet free. Large illustrated catalog, 10 cts. F. G. WILE, Telford, Pa.

Electric Egg-producer will make your hens lay. Try it and see. Trial box 40 cts. prepaid. PEARL Co., Clintonville, Ct.

Sicilian Buttercups. One Utility flock. Eggs, \$2.50 per 15; unsatisfactory hatches replaced at half price. WALTER M. ADEMA, Berlin, Mich.

White Hackle strain Silver Campines; eggs for hatching, \$3 per 15; \$5 per 30. Write for circular. ELMER W. PALMER, Catskill, N. Y.

White Orpingtons, beauties. Five hens and rooster. Beauties, \$15 gets them. R. J. FOSTER, Marion, Ind.

S. C. White Minorcas, \$3 per 15; R. C. Buff Leghorns, S. C. Brown Leghorns, and Partridge Wyandottes, \$1 per 15. HILLCREST FARMS, Winchester, Ind.

FOR SALE.—Cyphers 240-egg incubators, \$15.00; latest model; fireless brooders. Cost \$10 and \$3 each. R. I. Red eggs, \$4.00 per 100. Satisfaction guaranteed. C. H. ZURBURG, Topeka, Ill.

FOR SALE.—Chicks, 10 cts. each; eggs, 5 cts. each. S. C. White Leghorns, 248-egg strain; also one new reliable 200-egg incubator; hot-bed sash, 90 cts. each. G. ROUZYAHN, Biglerville, Pa.

Corning strain direct, S. C. W. Leghorn eggs and day-old chicks for sale. The strain that weigh, lay, and pay. Also B. P. Rocks at farmers' prices. F. J. ARMSTRONG, Nevada, Ohio.

Runner Duck Eggs.—Fawn, white-egg strain, \$1 per 12 eggs. Single-comb R. I. Red eggs, and day-old chicks, Tompkins strain. SARAH WIDRIG, Rt. 29, Burt, N. Y.

Rhode Island Reds, Partridge Wyandottes, Mottled Anconas, White Leghorns, White Cornish; Pekin, Rouen, Fawn and White Indian Runner ducks; also pure-white Indian Runners and White Call Ducks. Line-bred stock for sale. Eggs to set. Prices reasonable for high-class stock.

L. G. CARY, Trimble, Ohio.

MISCELLANEOUS

Belgian hares, breeders, and youngsters. List free.
HARVEY L. STUMB, Quakertown, Pa.

Yorkshire Swine Monthly Magazine, 50 cents per year.
YORKSHIRE SWINE PUBLISHING CO.,
Franklinville, N. Y.

FOR SALE.—Dahlia roots, 2 cts. each and up—green flowering, and 100 other colors. Soy beans, Thornless raspberry. Circular free.
JACOB MCQUEEN, Baltic, Ohio.

Pigeons! Pigeons! Thousands, all breeds; lowest prices; satisfied customers everywhere. Start with our \$\$\$-making Jumbo Squab-breeders. Large, free, instructive, illustrated matter.
PROVIDENCE SQUAB CO., Providence, R. I.

HELP WANTED

WANTED.—Young man or boy to help take care of bees. State age, experience, and wages expected.
CHARLES ADAMS, Greeley, Col.

WANTED.—Help, season of 1914. State experience, age, and wages wanted in first letter.
MATHILDE CANDLER, Cassville, Wis.

WANTED.—Man (married preferred) experienced in queen-raising; employment by the year on a salary and percentage.
OGDEN BEE AND HONEY CO., Ogden, Utah.

WANTED.—Reliable man of good habits to work with bees the coming season. State age, experience, and wages first letter.
THE ROCKY MOUNTAIN BEE CO., Forsyth, Mont.

SITUATION WANTED

Young man, 24, single, good character, inexperienced, wishes to learn modern beekeeping during the coming season. Kindly send your proposal.
GEO. SCHWAYBACH, 53 Forest St., Montclair, N. J.

BEEKEEPERS' DIRECTORY

If you need queens by return mail send to J. W. K. SHAW & Co., Loreauville, Iberia Parish, La.

Nutmeg Italian queens, leather color, after June 1, \$1.00.
A. W. YATES, Hartford, Ct.

Well-bred bees and queens. Hives and supplies.
J. H. M. COOK, 70 Cortlandt St., New York.

QUEENS.—Improved red-clover Italians bred for business, June 1 to Nov. 15, untested queens, 75c. each; dozen, \$8.00; select, \$1.00 each; dozen, \$10; tested queens, \$1.25 each; dozen, \$12.00. Safe arrival and satisfaction guaranteed.
H. C. CLEMONS, Boyd, Ky.

Quirin's famous improved Italian queens, nuclei, colonies, and bees by the pound, ready in May. Our stock is northern-bred and hardy; five yards wintered on summer stands in 1908 and 1909 without a single loss. For prices, send for circular.
QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio.

SPECIAL NOTICES

By OUR BUSINESS MANAGER.

SWEET-CLOVER SEED.

We still have a fair supply of choice seed at prices quoted in our last issue. Early spring is the best time for sowing seed. Send in your orders if in need.

ALSIKE MAMMOTH CLOVER SEED.

The market on clover seeds seems somewhat easier than it has been, and we quote choice alsike seed at \$23.00 for 2 bushels; \$11.75 for one bushel; \$6.00 for ½ bushel; \$3.25 for 1 peck; 25 cts. per lb., not prepaid.

Mammoth or Peavine: \$19.00 for 2 bushels; \$9.75 for one bushel; \$5.00 for ½ bushel; \$2.75 per peck; 22 cts. per lb., not prepaid; bags included in each case.

COMB FOUNDATION ADVANCED.

The market price of beeswax has risen to such a point that we can no longer maintain the prices of comb foundation issued for this season in our wholesale and jobbing lists. An advance of 2 cents a pound is made in all quantities, 25 lbs. and up. As the retail lists are out with prices on one and five pound lots, making it difficult to change, we will, for the present, let these rates stand. Instead of dropping 2 cts. a pound between 5 and 10 pounds lots, and between 10 and 25 pound lots, the drop in each case will be one cent per pound, which brings the 10-lb. rate one cent higher, and the 25-lb. and over, 2 cents higher than given in January issues of our wholesale lists.

SECOND-HAND FOUNDATION MILLS.

We have to offer the following list of foundation machines which have been used, but are in fair condition. In many cases they will answer as well as a new machine where you have only a moderate output. Send for samples of any mill in the list which may interest you.

No. 0139, 2½ x 6 hexagonal thin-super mill, in very good condition. Price \$14.00.

No. 0140, 2½ x 6 hexagonal thin-super mill, in very good condition. Price \$14.00.

No. 0142, 2½ x 6 hexagonal thin-super mill, in fair shape. Price \$10.00.

No. 0153, 2½ x 6 hexagonal thin-super mill, in very good condition. Price \$14.00.

No. 0154, 2½ x 6 hexagonal thin-super mill in very good condition. Price \$14.00.

No. 0156, 2½ x 6 extra-thin-super mill, fair. Price \$10.00.

No. 0165, 2½ x 6 hexagonal extra-thin-super mill in fair condition. Price \$12.00.

No. 0176, 2½ x 6 extra-thin-super mill in fair condition. Price \$12.00.

No. 0180, 2½ x 6 hexagonal thin-super mill, in fair condition. Price \$10.00.

No. 0183, 2½ x 6 hexagonal thin-super mill, very good condition. Price \$14.00.

No. 0207, 2½ x 6 hexagonal cell thin-super Dunham mill in good condition. Price \$10.00.

No. 0213, 2½ x 10-inch hexagonal light-brood mill, in fair condition. Price \$18.00.

SPECIAL NOTICES

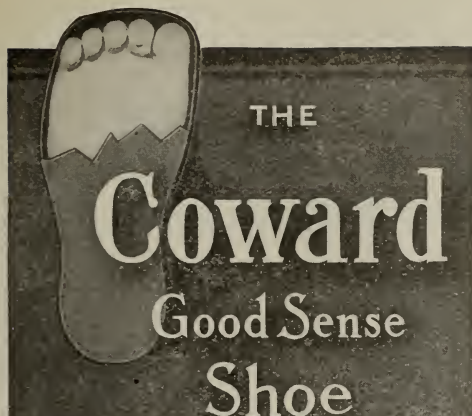
A. I. ROOT

DASHEEN TUBERS FOR SEED.

We are informed that Mrs. Burton, Geo. Kitchen, and Mr. Ault, whose name we gave on p. 118, Feb. 1, have sold out their stock of dasheen seed. The other parties named, so far as I know, can still furnish seed tubers. My near neighbor, Mr. Harrison, has still quite a stock.
A. I. R.

DASHEEN TUBERS FOR OUR FRIENDS.

When this catches your eye it will probably be safe to mail tubers almost anywhere, and every one of you who has paid up ahead for one year or more is entitled to two tubers for asking. They should be planted this month, either indoors or out, in order to have a long season to grow. Even if *mature* tubers can not be grown in the far North, dasheen "asparagus" can be grown anywhere; and every one who gets a taste of it is an enthusiast at once. Send your order direct to "your old friend," A. I. Root, Bradentown, Fla.



THE
Coward
Good Sense
Shoe

A helpful shoe that strengthens and protects growing feet, in a way to benefit weak ankles, support arches and prevent "flat foot."

Coward Arch Support Shoe and Coward Extension Heel made by James S. Coward for over 33 years.
FOR CHILDREN, WOMEN AND MEN.
Send for Catalogue. Mail Orders Filled.
Sold Nowhere Else.
JAMES S. COWARD
264-274 Greenwich St., near Warren St., New York

NICHOLS' WHITE WYANDOTTES--BRED TO LAY

John S. Martin Regal Strain

Two matings, both headed by Cleveland 1914 winners. Carefully selected females. Eggs: Pen No. 1, \$3.00 per 15; \$7.50 per 50; \$12.00 per 100. Pen No. 2, \$2.00 per 15; \$5.00 per 50; \$9.00 per 100. I guarantee nine chicks to a setting; if less than this number hatch, I will furnish another setting at half price.

N. P. NICHOLS, - MEDINA, OHIO

MEN WHO MAKE THE WORLD.

Men who make the world of to-day are making *The Youth's Companion* what it is to-day. It is very much more than *The Companion* you may remember; no higher in purpose, but more lavish in material—larger and improved with special Family Pages, Boys' Pages, Girls' Pages, and a constant supply of serials and shorter stories.

The editorial page of information, comment, science and events will keep any man well informed, while the Family Page helps on home improvements and ideas, and both boys and girls have special pages for themselves.

You do the family a good turn when *The Youth's Companion* "as it is to-day" is sent to the home. Fifty-two issues a year—not twelve. More reading than is found in any monthly magazine at any price.

You may not know *The Companion* as it is to-day. Let us send you three current issues free, that you may thoroughly test the paper's quality.

THE YOUTH'S COMPANION,
144 Berkeley St., Boston, Mass.
New Subscriptions Received at this Office.

This Washer Must Pay for Itself

A MAN tried to sell me a horse once. He said it was a fine horse, and had nothing the matter with it. I wanted a fine horse. But I didn't know any thing about horses much. And I didn't know the man very well either.



So I told him I wanted to try the horse for a month. He said "All right, but pay me back, and I'll give you first your money if the horse isn't all right."

Well, I didn't like that. I was afraid the horse wasn't "all right," and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about

the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see I sell my Washing Machines by mail. I have sold over half a million that way.

So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tub full of very dirty clothes in Six Minutes. I know no other machine ever invented can do that, without wearing out the clothes.

Our "1900 Gravity" Washer does the work so easy that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges, nor break buttons the way all other machines do.

It just drives soapy water clear through the fibers of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months; in wear and tear on the clothes alone. And then it will save 50 cents to 75 cents a week over that in washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50 cents a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

Address me this way—H. L. Barker, 1127 Court Street, Binghamton, N. Y. If you live in Canada, address 1900 Washer Co., 355 Yonge St., Toronto, Ontario.

Honey - Cans

We have made especial efforts this season to supply our patrons with cans and cases of the finest quality, and we have now in our warehouse a complete stock ready for immediate shipment to you.

There is much satisfaction in knowing that there is a dependable source of supply so near to all Texas Beekeepers, and others in the great Southwest. Experience has taught us to anticipate properly the needs of our patrons, and we have as yet failed to fall down at a critical time. Sometimes we feel that it is not wise for Beekeepers to trust entirely to the supply house for eleventh-hour assistance, but we concentrate our energies, nevertheless, on complete preparation, and when you are ready we are. Write us for prices.

Weed's New Process Comb Foundation

We have made extensive improvements in our comb-foundation factory this season at a great expense, and are now operating day and night under the supervision of a man direct from the A. I. Root Company, who has had many years of experience in the manufacture of this product. When placing your order with us you are assured of receiving Comb Foundation of unexcelled quality.

A full line of Root's Beekeepers' Supplies on hand at all times ready for immediate shipment.

Toepperwein & Mayfield
Nolan and Cherry Sts. San Antonio, Texas

Announcing the New Typewriter Oliver Number 7

We announce an amazing model—the OLIVER NUMBER 7—a typewriter of *super-excellence*, with automatic devices and refinements that mark the zenith of typewriter progress. A marvel of beauty, speed, and easy action. Typewriting efficiency raised to the *n*th power.

The OLIVER No. 7 embodies all previous Oliver innovations and new self-acting devices never before seen on any typewriter. A leap in advance which places the Oliver ten years ahead of its time. So smooth in action, so light to the touch, so easy to run, that experts are amazed. A model that means to the typist delightful ease of operation.

A model that means a higher standard of typewriting, longer and better service.

The NUMBER 7 is now on exhibit and sale at all Oliver Branches and Agencies throughout the United States.

The OLIVER 7 Typewriter No. 7

The Standard Visible Typewriter

The new model has more improvements, refinements and new uses than we can even enumerate here.

The “cushioned keyboard” with “anchorkeys” and the new automatic features mean less work for the hands, less strain on the eyes, less manual and mental effort.

With all of these masterly mechanical improvements we have made the machine more beautiful and symmetrical. From every standpoint the OLIVER NUMBER 7 attains superlative excellence.

Nothing you could wish for has been omitted. The new devices, refinements, improvements and conveniences found on the NUMBER 7 represent an enormous outlay and vastly increase its value—the price has not been advanced one penny. We shall even continue in force our popular 17-Cents-a-Day purchase plan, the same as on previous Oliver Models.

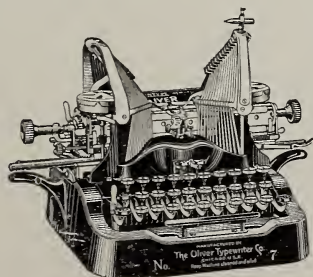
The OLIVER No. 7, equipped with the famous Printype, if desired, without extra charge.

You owe it to yourself to see the new machine before you buy any typewriter at any price. Note its beauty, speed and easy action, its wonderful automatic devices. Try it on any work that is ever done on typewriters. Try it on many kinds of work that no other typewriter will do.

It is a significant fact that the typewriter that introduced such epoch-making innovations as visible writing, visible reading. Printype, etc., should be the first to introduce automatic methods of operation.

Oliver Book DeLuxe

We are just issuing a richly illustrated catalog describing the Oliver No. 7. A copy is yours for the asking. There are still openings for more Local Agents in many localities. This is a good time to investigate these money-making opportunities.



The Oliver Typewriter Co.

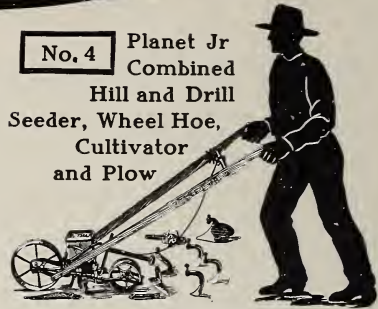
Oliver Typewriter Bldg., Chicago

Planet Jr.



No. 16 Planet Jr
Single
Wheel Hoe,
Cultivator,
Rake
and Plow

The highest type of Single Wheel Hoe made. It is light, handy, and adapted to use by man, woman, or child. Has leaf guard for close work, and a durable steel frame.



No. 4 Planet Jr
Combined
Hill and Drill
Seeder, Wheel Hoe,
Cultivator
and Plow

This is a practical every day time, labor, and money saver. It combines in a single implement a capital seeder, an admirable single-wheel hoe, furrower, wheel cultivator, and a rapid and efficient wheel garden plow. Every owner of a vegetable garden can save the cost of this tool in a single season.

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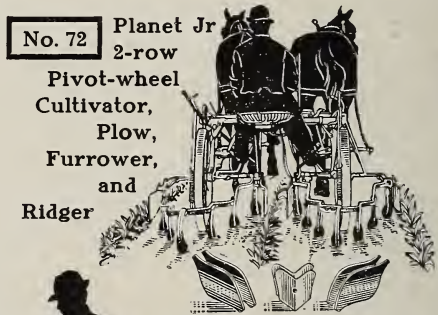
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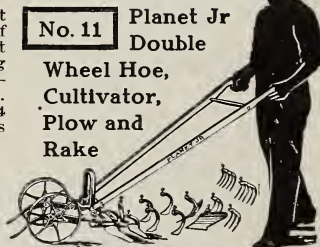
No. 76 Planet Jr
Pivot-
wheel Riding
Cultivator,
Plow,
Furrower,
and
Ridger

A wonderful implement in extensive cultivation of corn, potatoes, etc. Light in draft, simple and strong in construction and comfortable to ride upon. Works rows 28 to 44 inches, and cultivates crops until 5 feet high.



No. 72 Planet Jr
2-row
Pivot-wheel
Cultivator,
Plow,
Furrower,
and
Ridger

Cultivates at one time two rows of potatoes, corn, beans, etc., in rows 28 to 44 inches apart. Works like a charm in check rows, crooked rows, and rows of irregular width. Can be equipped with roller-bearings, spring-trip standards, and discs.



No. 11 Planet Jr
Double
Wheel Hoe,
Cultivator,
Plow and
Rake

The greatest cultivating tool in the world for the grower of garden crops from drilled seeds. It has steel frame. The plow opens furrows for manure, seed, etc., and can be reversed for covering. The cultivating teeth are adapted for deep or shallow work and for marking out. Crops can be worked both sides at once until 20 inches high.